The Royal Sanitary Institute
Library.

Annual Report

OF THE

County Medical Officer of

Health, County Donegal,

ON THE

Health and Sanitary Conditions

of the County

AND ON THE

County School Medical Service.

YEAR 1938.

The Champion Publications Ltd., Wine Street, Sligo.

TABLE OF CONTENTS.

PART I.

PART II.—SCHOOL MEDICAL SERVICE

Roinn na Sláinte Puiblidhe,

Srath an Urláir,

Co. Dhún na nGall.

Do Chathaoirleaeh agus Comhaltaí,

Chomhairle Chonndae Dhún na nGall.

A Dhaoine Uaisle,

Is mór agam d'onóir an cuntas cinn-bliadhna seo do chur fé nbhúr mbrághaid fé mar atá de dhualgas orm do réir na n-ordughadh so leanas: Ordughadh na Liaigh-Fheadhmannaeh Conndae, 1926, agus Ordughadh Sláinte Puiblidhe (Liaigh-Riaradh Leanbhaí) a 1920.

Mise, le meas,

M. BASTABAL,

Liaigh-Fheadhmannach Conndae.

Aibreán, 1939.

DONEGAL BOARD OF HEALTH.

Staff of Public Health Department

Year ending 31st December, 1938.

County Medical Officer of Health :

M. S. BASTABAL. M.D., D.P.H. (M. J. BASTIBLE).

Assstant County Medical Officers of Health :

M. J. McCOLGAN, M.B., B.Ch., B.A.O., D.P.H., B.Sc., L.M.

R. HAYES. M.B., B.Ch.. B.A.O., D.P.H., B.Sc.. (P.H), L.M.

School Dental Officers (Part Time) :

JOSEPH R. KELLY, B.D.S.
J. VINCENT CALLAGHAN. L.D.S.

Public Health Nurses :

Full Time—MISS ANNE CASEY.

MISS MARY WALSH. (Resigned June. 1938).

MISS MARGARET T. McLAUGHLIN.

MISS A. J. MEEHAN. (Temporary appointment from June. 1938).

Part Time—THE JUBILEE AND DUDLEY NURSES employed in the following areas:—Annagry, Ardara, Arranmore, Ballybofey and Stranorlar, Ballyshannon, Bruckless, Buncrana, Bundoran, Carndonagh, Carrigart, Clonmany, Convoy, Derrybeg, Donegal, Doochary, Drumholm, Dunfanaghy, Dungloe, Fahan and Inch, Fanad Upper, Fanad Lower, Frosses, Glencolumbkille, Gortahork and Falcarragh, Kilcar, Letterkenny, Lifford and Castlefin, Moville, Ramelton, Rathmullan and Glenvar.

Clerk : SEAMUS Ó CEALLAIGH.

PART I.

ANNUAL REPORT

OF THE

County Medical Officer of Health

County Donegal,

ON THE

Health and Sanitary Conditions of the County.

YEAR 1938.

Annual Report on the Health and Sanitary Conditions of the County.

YEAR 1938.

POPULATION.

The population of County Donegal, comprising an area of 1,193,573 statute acres, was 142,192 according to the Census of 1936. The population for the several years from 1821 to 1936 was as follows :—

1821	...	248,270	1881	...	206,035
1831	...	289,149	1891	...	185,635
1841	...	296,448	1901	...	173,722
1851	...	255,158	1911	...	168,537
1861	...	237,395	1926	...	152,508
1871	...	218,334	1936	...	142,192

The following shows the distribution of the population according to Urban and Rural Districts since the Census of the year 1911.

DISTRICT.	1911 Census	1926 Census	1936 Census
URBAN DISTRICTS.			
Buncrana U.D.	1,874	2,309	2,295
Bundoran U.D.	2,116	1,339	1,351
Letterkenny U.D.	2,194	2,308	2,649
RURAL DISTRICTS.			
Ballyshannon R.D.	7,772	7,509	6,628
Donegal R.D.	19,616	16,552	14,780
Dunfanaghy R.D.	15,471	14,252	13,559
Glenties R.D.	32,800	30,081	27,562
Inishowen R.D.	33,837	30,545	28,285
Letterkenny R.D.	9,961	8,782	8,496
Milford R.D.	19,293	16,884	15,497
Stranorlar R.D.	23,503	21,947	21,090
TOTALS	168,537	152,508	142,192

Letterkenny, Buncrana, Bundoran and Ballyshannon are the four largest towns in Donegal, each of the three first-mentioned having its own Urban Council for local administrative

purposes. and the last-mentioned being under the control of a Commissioner appointed to administer the affairs of the Ballyshannon Town Commissioners.

The following table shows the population of the towns in County Donegal, according to the 1936 Census.

Towns with Population over 200		Towns with Population under 200.	
Town	Population.	Town	Population.
Letterkenny	2,649	Creeslough	199
Buncrana	2,295	Cross Roads	171
Ballyshannon	2,223	Killygordon	165
Bundoran	1,352	Kilmacrenan	155
Donegal	1,315	Carrigans	154
Moville	937	Clonmany	123
Rathmelton	924	Carrowkeel	120
Raphoe	754	Kilcar	117
Ballybofey	736	Manor Cunningham	117
Carndonagh	660	Carrickart	115
Killybegs	631	Muff	114
Dungloe	593	Carrick	112
Lifford	478	Malin	112
Stranorlar	462	Culdaff	95
Ardara	442	Ballindrait	91
Rathmullan	402	Laghy	85
Dunfanaghy	386		
Milford	377		
Castlefin	374		
Convoy	369		
Glenties	360		
Mountcharles	313		
Ballintra	287		
St. Johnston	272		
Pettigo (pt.) (a)	251		
Dunkineely	235		
Newtown Cunningham	207		

(a) The remainder of the town of Pettigo is in District Electoral Division of Clonelly, Fermanagh County.

The following figures of population for the whole of Ireland are of interest inasmuch as they show that the steady decline in population in County Donegal almost exactly parallels that for the Country as a whole :—

1831	7,767,401
1841	8,175,124
1851	5,552,385
1861	5,798,967
1871	5,412,377
1881	5,174,836

1891	...	...	4,704,750
1901	...	...	4,458,775
1911	...	...	4,390,219
1926	F.S.	2,971,992	
	N.I.	1,256,561	4,228,553
1936	F.S.	2,965,854	
	N.I.	1,279,753	4,245,607

VITAL STATISTICS.

1.	Population (according to Census, 1936)	142,192.
2.	Number of Births	2,536
	Rate per 1,000 of the population	17.8
3.	Number of Marriages	665
	Rate per 1,000 of the population	4.7
4.	Number of Deaths from all causes	1,927
	Rate per 1,000 of the population	13.5
5.	Number of Deaths from Tuberculosis (all forms)	134
	Rate per 1,000 of the population	0.9
6.	Number of Deaths from Pulmonary Tuberculosis	100
	Rate per 1,000 of the population	0.7
7.	Number of deaths from other forms of Tuberculosis	34
	Rate per 1,000 of the population	0.2
8.	Number of Deaths from Influenza	73
	Rate per 1,000 of the population	0.5
9.	Number of deaths from Cancer	149
	Rate per 1,000 of the population	1.0
10.	Number of Deaths of Infants under 1 year	120
	Rate per 1,000 Births	47
11.	Number of deaths from Principal Epidemic Diseases	41
	Rate per 1,000 of the population	0.3
12.	Number of Deaths from Diarrhoea and Enteritis in children under 2 years of age	8

13. Total number of Deaths from Puerperal Conditions	7
Rate per 1,000 Births	2.8
14. Number of deaths from Puerperal Sepsis	1
Rate per 1,000 Births	0.4
15. Number of Deaths of persons over 65 years of age	1,044
Percentage of total deaths	54.2

(Death Rates are calculated on the population figures according to the Census of 1936 unrevised).

INFECTIOUS DISEASES.

The infectious diseases notified during the year 1938 are classified in the accompanying Table, opposite the Dispensary Districts in which they occurred.

Dispensary District	Tuber-culosis	Enteric Fever	Diph-theria	Scarlet Fever	Puerperal Fever
Ardara	10	—	—	1	—
Ballintra	—	—	—	—	—
Ballyshannon	—	—	1	4	—
‡Bunerana	2	—	12	45	—
Carndonagh	—	—	—	3	—
Carrick	4	1	—	—	—
Castlefin	1	—	1	1	—
Churchill	1	—	—	—	—
Cloghan	3	—	—	8	—
Clonmany	—	—	1	—	—
Cross Roads (Falcarragh)	1	2	6	3	—
Cross Roads (Bunbeg)	3	—	—	14	—
Donegal	—	—	—	2	—
Doochary	—	—	—	—	—
Dunfanaghy	—	6	—	—	1
Dungloe No. 1	—	—	—	—	—
Dungloe (Burtonport)	5	—	1	1	—
Dungloe (Arranmore)	1	4	—	—	—
Dunkineely	2	3	1	—	—
Fanad	3	—	1	7	—
Glenties	4	—	—	—	—
Kilderry	3	—	1	2	—
Killea ...	—	—	7	16	—
Killybegs	1	—	—	—	—
Killygordon	1	—	—	—	—
‡Kilmacrenan and Milford	3	—	10	9	—
Laghey	—	—	—	—	—
Letterkenny	1	4	4	6	—
Malin	—	—	—	10	—
Manorcunningham	2	—	—	2	1
Moville	3	—	—	56	—
Pettigo	7	—	—	18	—
Ramelton	—	—	15	5	—
Raphoe	1	1	—	2	—
Rathmullan	—	—	—	6	—
Rosguill	—	—	—	4	—
Stranorlar	2	—	—	—	1
*Tanatallon	1	—	—	1	1
TOTAL	65	21	61	226	4

‡1 case returned as "Diphtheria" was a mixed infection of Diphtheria and Scarlet Fever.

* 1 case of Cerebro Spinal Meningitis occurred in this District.

TYPHOID FEVER. ("ENTERIC").

The number of cases reported was twenty-one, which is lower than any year since 1930, if we accept the abnormally low incidence of ten cases in 1936. One of the twenty-one cases died in hospital, however, giving a mortality rate of about five per cent. This is the second lowest death-rate yet recorded in the County. Still, no effort must be spared to stamp out this dread disease, always a faithful index of the hygienic standard of a community and apt to spread in a devastating fashion if not detected and checked at its inception. As will be noticed from the accompanying table the cases that occurred were scattered over a wide area, six being the greatest number to occur in any one district. It is fortunate that in cases of typhoid fever, **if recognised sufficiently early,** steps can be taken to limit further spread of the disease. These steps consist briefly (a) in immediate removal of infected persons to hospital (b) inoculation of all healthy contacts with anti-typhoid vaccine (c) directions that all water and milk for human consumption be boiled pending investigation of the origin of the outbreak. In many of these smaller sporadic outbreaks it is found impossible to trace the original focus from which the disease took origin, nevertheless the continuance of the precautions outlined above for a period of some weeks usually suffices to cause the disease to disappear. In a county like Donegal where enteric has been endemic for so many years, there are bound to be many "carriers." These are persons, who, though they have recovered from enteric fever, continue to excrete the organisms of the disease for months or even years. As previously stated, such people, though in good health themselves, are always a potential source of pollution, either by fouling water-supplies or by neglecting to wash their hands carefully each time after excretion. The following statement taken from last year's report is so important that it merits reiteration: "the single important source of enteric infection consists in typhoid (or paratyphoid) bacilli which are living or proliferating within the bodies of infected persons; and the whole problem of prevention, neglecting for the moment the possibility of active immunisation, consists in stopping the various routes by which the bacilli may pass from the intestine or kidney of one individual to the mouth of another."

From investigations made in the several cases that occurred in 1938, it was concluded that in at least three of the outbreaks the infection originally came from outside the County. In some of the remaining cases infection was traced to contact with "carriers" of the disease, while in others there was only presumptive evidence of a similar mode of infection.

There was one rather interesting case of two children who had been staying in Bundoran and on their return home to Leitrim were found to be suffering from typhoid fever. Dr. Gordon of Ballyshannon elicited the significant fact that a maid from Leitrim who had come to look after the children had been ill before arrival in Donegal. This girl was traced with a good deal of difficulty many weeks afterwards and was found to have a strongly positive Widal. She was, therefore, presumably the infecting agent, so that the disease was really of exogenous origin.

As illustrating the difficulties of diagnosis, one case was treated for two weeks by her doctor with all the typical signs of pneumonia. As there was then no sign of a crisis he sent a sample of the patient's blood for a Widal examination and received a report that it agglutinated B. typhosus but only in low titre (1-125). A further sample of blood one week later gave an agglutination reaction of exactly the same low titre, while the excretions were negative for the bacillus. The attending physician then wrote me as follows : "I may add that this is a typical case of typhoid fever irrespective of what the laboratory results may show, and I am of opinion that the reason of the titre being so low is that it is a virulent type of infection." At this stage the patient was running a high temperature, was very delirious and had typical pea-soup motions. As there was no increase in titre in the second specimen of blood. a third specimen was despatched a week later and the pathologist was asked to perform a further Widal together with tests for typhus and undulant fevers. The Widal now showed agglutination of B. typhosus in a dilution of 1-1,000, thus clinching the diagnosis. The other tests were negative. The patient eventually made a complete recovery, and has been in good health since.

The one death occurred in the case of a doctor who had been considered to be suffering from influenza before coming across from England for a holiday. He did not take to his bed until some weeks after the beginning of his illness which was diagnosed as advanced typhoid fever shortly after his arrival in Donegal.

The following table gives the official notifications together with the relevant deaths for the years 1930-1938 (inclusive) in County Donegal. The Registrar-General's returns show a total of four deaths **registered** in 1938. Actually three of these occurred in the Mental Hospital outbreak in December 1937, so that last year's percentage case mortality for that institution should have been 16.5 instead of 12.7. Taking the total

correct figures for 1937 then as 102 notifications with 16 deaths, the case mortality in 1937 was 15.7 per cent. for the County as a whole. It will be evident from the table that the mortality for the year 1938 was the lowest yet recorded, with the exception of the year 1935.

YEAR	Number of Cases	Number of Deaths
1930	75	10
1931	51	5
1932	24	4
1933	46	9
1934	39	2
1935	42	1
1936	10	2
1937	102	16
1938	21	1

TYPHUS FEVER.

No cases have been notified since 1931. In the typhoid outbreak at Dunfanaghy (six cases) the question of typhus was raised by the local Medical Officer of Health, and the pathologist reported on the blood as follows : "With reference to the Widal and the Weil-Felix reactions on the four samples of blood which you sent us, numbers 1. 2 and 4 gave definite Widal reactions, which suggest the existence of infection with B. Typhosus. Number 3 is not so definite as the "O" agglutination is very weak. The Proteus reactions may, of course, be due to concomitant infection with B. proteus. but the agglutination of the Kingsbury strain is not common in our experience except with sporadic (possibly tick-born) typhus. We have not sufficient data yet to say how far a reaction in a 1-25 dilution of the Kingsbury (XK) strain is diagnostic. The literature in other countries suggests that reactions should be stronger and in some of these cases if the illness lasted for a couple of weeks, if genuine typhus were present, stronger reactions should be expected. It would be important, however, to determine later on, in perhaps one of these cases, whether the reaction had become stronger, or was it stationary. It is

possible to settle the diagnosis of typhoid, apart from the clinical findings, by the isolation of the organism from the blood, stools or urine (the blood-culture from No. 1 is still under investigation), but in the case of sporadic typhus absolute proof of infection is a very difficult thing to determine. The cases may be like those about which Dr. Hourihane wrote when he was in Mayo, Typhoid-Typhus but these agglutinins may be there for some time. The duration of illness of the first case, three days, does not correspond with the intensity of the Widal reaction."

From clinical examination I did not personally consider the cases to be other than enteric. The fact that some of them were badly flea-bitten tended, of course, to obscure the diagnosis, when taken in conjunction with the slight positive Weil-Felix reaction. A further confusing fact was that two of the cases in one family were suffering from conjunctivitis, but on further questioning it was discovered that the condition of the eyes was chronic in both cases, and had existed for several months before the illness in question. Furthermore, from careful personal inspection of these patients. their clothing and bed-clothes, I could find no evidence of louse infestation. though some of them were badly flea-marked. The illness in the case of the young people especially was pretty severe, and in all the cases was typical of enteric fever. I, therefore, came to the conclusion that typhus fever could be ruled out.

In an excellent article entitled " Le Typhus Exanthématique en Pologne " (Bulletin Mensuel de l'Office International d'Hygiéne Publique—August, 1938), Dr. Mosing gives an exhaustive review of his research work on typhus fever extending over seven years. On the question of serodiagnosis he makes the following illuminating comments :—

" Il est á noter qu'on observe parfois une réaction de Weil-Felix positive, en général faible, qui n'est point pathognomique du typhus exanthématique. Nous rencontrons assez souvent des cas de ce genre au cours de nos recherches sérologiques.....

Souvent nous constatons aussi une réaction de Weil-Felix positive au titre de 1/100, de 1/200, exceptionnellement de 1/400, dans des cas de fiévre typhoide. Dans les cas de celle nature, il ne peut être question d'une infection mixte, car, cliniquement et épidémiologiquement, nous sommes en presence d'un typhus abtdominal ("enteric fever ") démontré par une culture positive faite avec le sang et les selles, et par une réaction de Widal positive. Quant au typhus exanthématique (" typhus fever "), nous devons l'exclure pour des raisons épidémiologiques : l'infection des poux et des cobayes donne un résultat négatif ; la maladie atteint des individus jeunes (four of the six Dunfanaghy cases were in children whose ages ranged from eight to twelve years. The temperature ranges were in the region of 101 degrees F.); less cas en question surviennent dans les départments

de l'Ouest et du centre, où le typhus ne régne pas. Nous ne pouvons donc pas, dans ces conditions, y voir la trace d'un typhus exanthématique contracté antérieurement. Ces résultats doivent étre envisagés comme non-spécifiques pour le typhus exanthématique, d'autant plus que la réaction d'agglutination avec " R. prowazeki ," décisive dans les cas de ce genre, se montre complétement négative. Mais les réactions faiblement positives qui sont constatées dans la zone du typhus exanthématique donnent souvent lieu á des méprises et sont enregistrées á tort.....

Dans les cas oú on a observé une réaction de Weil-Felix positive non spécifique, c'est la réaction négative d'agglutination avec " R. prowazeki " (" reaction de Weigl") qui sert á établir le diagnostic. Malheureusement la technique assez difficile de cette réaction en empéche l'application en grand dans les laboratoires qui ne sont pas spécialement outillés pour les études sur le typhus exanthématique."

Dr. Mosing states that the following symptoms are observed in early stages of the disease : shivering, headache, fever and general malaise. Often there are in addition pulmonary manifestations in the form of bronchitis and sometimes even of pneumonia, and these are liable to give rise to errors in diagnosis. In many cases the illness has been meningeal in character from the onset.

The headache is usually located in the frontal region ; it persists practically all through the illness, and often even many days or weeks after the temperature has fallen to normal. Sometimes pains in the muscles, bones and joints supervene.

The duration of the malady is, in most cases, about two weeks, and the temperature remains at a consistently high level. A fever lasting two weeks accompanied by persistent headache has been found the most characteristic clinical picture at the onset of an epidemic. Sometimes, however, in young people, the fever does not last for two weeks ; it is often of shorter duration. In older people it sometimes lasts from 15 to 16 days.

Constipation is very common, but diarrhoea is also frequently observed, especially in early cases, and may give rise to a wrong diagnosis. Dr. Mosing was able to demonstrate that patients were actually suffering from typhus in many cases, despite a typical clinical picture of typhoid fever.

Delirium may be pronounced and violent, so that patients require careful and uninterrupted supervision. An important point is that the pulse is usually from 110 to 150 per minute, while there is a gradual increase in the white cell count, resulting in a well-marked leucocytosis towards the end of the illness. It is typical of typhus fever that the eosinophils disappear during the course of the malady.

The rash is characteristic, but is not always present. Dr. Mosing found it in only 70 per cent. of his patients, and in some of these it was very faint. It appears usually about the fifth day, first on the chest, then on the shoulders or the sides of the trunk and on the external surface of the forearms. In older persons the rash is more intense and lasts longer than in children. It is of a violet-red colour,

with a bluish tinge, and appears in the form of little spots, without definite contour, from 1 to 4 millimetres in diameter, which disappear on pressure. The duration of the rash is variable—from 3 to 7 days. It is localised principally on the upper limbs on the flexor aspect, and spreads all over the body, especially on the back. Sometimes it may assume a haemorrhagic character, though not necessarily in fatal cases.

Conjunctival inflammation is sometimes observed. Herpes is rare.

Dr. Mosing calls attention to the fact that in certain cases, one may be able to diagnose typhus fever before the appearance of the rash by the phenomenon of a typical eruption provoked by the application of a dry cupping-glass.

The period of convalescence usually lasts several days. During this time the patient's appetite is good, and he rapidly returns to normal.

SCARLET FEVER.

Scarlet Fever is one of the epidemic diseases caused by streptococci, a fact which has been indubitably demonstrated only within comparatively recent times. Studies in the epidemiology of streptococcal diseases have been increasing in frequency of late, as a result of the difficulty of inhibiting spread of infection, together with the acknowledged lethal effect of streptococcal infection in the case of puerperal women. As a result of these later studies, it is becoming increasingly evident that an isolated case of puerperal fever is itself evidence of an epidemic. It implies a widespread prevalence of streptococcal disease. Two recent surveys of the role of streptococci in disease by Dr. Bradley, Cambridge, are summarised in the following paragraphs.

The classification of haemolytic streptococci—and it is safe to say we are almost entirely concerned with those giving B. haemolysis on horse-blood-agar plates—has been simplified by the introduction of serological typing. We can forget such names as "Streptococcus longus," "Sr. brevis" and Sr. mucosus." We can also forget "Sr. epidemicus," "Sr. scarlatinae," "Sr. erysipelatis," "Sr. anginosus," etc., and with them discard the specificity hypothesis which sought to associate a well-defined clinical entity with a particular and specific organism. We now know that in any given epidemic a single strain of "Sr. pyogenes" may produce angina, scarlet fever, erysipelas, cellulitis, lymphangitis, adenitis, otitis, sinusitis, meningitis, puerperal fever, septicaemia, etc. What Okell calls the "unitarian" hypothesis is now well tried and must be accepted if we are to understand the very elements of streptococcal epidemiology.

The bulk of, but not all, haemolytic streptococci pathogenic to man are identifiable by a specific carbohydrate substance and fall into Group "A" of Mrs. Lancefield. This group is further subdivided into about thirty different "Griffith types," each characterised by a specific "M" substance upon which their identification by agglutin-

ation depends. It is this typing technique which has made epidemiological studies and the proof of the unitarian hypothesis possible. However, these techniques are available in very few laboratories at present, so that it is not possible to have Griffith typing performed just yet by the ordinary bacteriologist.

The most striking epidemics of streptococcal infection are milk-borne. They are of comparatively common occurrence and are so impressive that they are believed by some to be the main source of spread. This is undoubtedly untrue, as numerous instances of epidemics totally unconnected with either food or drink have been described.

The rash of scarlet fever must be looked upon as entirely fortuitous in its occurrence and as of little value in the assessment of streptococcal parasitism. The occurrence of rash depends on the coincidence of two variable factors: (a) a Dick-positive patient infected by (b) an organism with a high Dick-toxin content. The idea that scarlet fever is sometimes highly contagious and sometimes hardly contagious at all therfore requires revision, the rash being no criterion. Searlet fever, is, however, a most useful indicator of the existence of streptococcal disease in a community. Erysipelas, most puerperal fever, cellulitis, the bulk of otitis, and certain types of tonsillitis are similarly useful clinical indicators.

The aggregate of these indicators probably represents not more than one-half of the morbidity due to "Str. pyogenes" infection.

Present knowledge suggests that the great bulk of streptococcal disease, even when apparently sporadic, is associated with a raised carrier rate of streptococci.

Apart from occasional milk-borne spread, the bulk of streptococcal disease is **spread by droplet** (speaking, coughing, laughing, etc.) This common type of droplet spread has certain peculiarities. (a) It is a community disease. Spread within the home, school or other institution accounts for the greater part of the contagion. Casual contacts in street, vehicles, shops, or from visiting relatives in hospital, are relatively of minor importance. (c) The bulk of immune carriers are themselves infected for a short period of time only. Their role in epidemics is most important.

It is probable that little or no immunity against the remaining twenty-nine types of Group A is conferred by any one streptococcal type-infection. For that reason, isolation and other hospitals admitting cases of acute streptococcal disease are liable to be a potential source for the dissemination of new infections throughout a community.

A type-specific epidemic tends to run its course through a community and to die out spontaneously. Persistence of an epidemic or the occurrence of relapses should suggest the presence of another type of infection.

Control over streptococcal disease will not be obtained until it is realised that "Sr. pyogenes" is one of the more common causes of colds, sore throat, and "flu," while the occurrence of streptococcal complications in measles and other non-cocal infections is

almost without exception part of a separate epidemiological question

Control does not necessarily depend upon complicated bacteriological techniques. Clinical methods are of greater fundamental value and must not be ignored.

Thus preventive medicine, now rapidly arming, finds that it has to deal with thirty streptococcal guerilla gangs and not one unconquerable giant army. Admittedly the guerillas are more numerous than appeared at first sight, but, if we look for them, we can find them with comparative ease, we recognise that they are not excessively mobile—they spread slowly—and they frequently present obvious targets.

These targets are various in character, and are the clinical indicators of streptococcal disease, scarlet fever, puerperal fever, wound infections, otitis media, etc., erysipelas, certain types of tonsillitis, and probably acute rheumatism and acute nephritis. If we applied routine hygienic methods upon the detection of these indicators, and took steps to trace their origins and thus to deal with the beginnings of the epidemics, we should prevent the spread of at least some of the Griffiths types in some localities. But the importance of these indicators is not generally known, and the first step in the prevention of streptococcal disease is :

(a) **The education of the public** and those responsible for its health ;

(b) **Early detection.**

Family doctors will do the community a great service if they will make a special study of the waves of nasopharyngitis which affect the homes of their patients, sometimes as frequently as three or four times a year. They will, after a while, have little difficulty in recognising distinct clinical entities if they take the trouble to use good instruments carefully. The time to apply prophylactic control is when the **first new throat appearance** is detected. There is no urgency about appealing to the bacteriologist for confirmation before precautions are taken. There are, however, powerful reasons for setting aside a few cultures from representative throats, and their value would be increased if they were related to a careful description of the throat appearances and clinical characters of the disease.

The general practitioner must be persuaded to become as streptococcus conscious as he is diphtheria conscious. If the presence of "Sr. pyogenes" in swabfound negative for diphtheria organisms were reported to family doctors, the latter could immediately adopt rigid preventive measures, and use suitable chemotherapy. If routine laboratories would do this, both clinician and bacteriologist would soon learn that group "A" streptococci are **not** "found in every throat," and that, when they are found, their presence indicates perilous streptococcal mischief in the environment of the person swabbed.

Thus, to sum up, almost all epidemic streptococcal disease is

caused by "Streptococcus pyogenes" belonging to one immunological group "A," which includes about thirty Griffith types, each acting as a distinct antigen and giving rise to little or no cross immunity to other Griffith types. Yet, partly because of the complexity of the antigenic mosaic of "Sr. pyogenes," a single type may, in any epidemic, cause such widely-differing clinical pictures as the common cold, tonsillitis, influenza, scarlet fever, puerperal fever, erysipelas, pneumonia, septicaemia, acute rheumatism, acute nephritis, wound suppuration, sinusitis, otitis media, etc. Four only of these conditions are notifiable, yet they are all infectious diseases—each one capable of spreading the other. The more durable sources of spread, the suppurative lesions, are not included among those notifiable, and only in the most enlightened circles is any effort made to isolate other than the notifiables.

DIPHTHERIA.

The number of notified cases is sixty-one which shows a fairly well-marked reduction on last year's figure (80). There were nine deaths registered, one of which was a mixed infection of Scarlet Fever and Diphtheria. These figures give a mortality rate of 14.8 per cent., which is about half as much again as that of last year. This only goes to show that diphtheria is a malady to be dreaded at all times, though there need be no really serious cases of the disease if its efficient prevention by means of active immunisation were universal. So impressed have they been in France with the good results of this procedure that it has now been made compulsory by law for the military forces.

Actually, of course, as mentioned in previous reports, even where infection does take place, the mortality may be practically nil with early and sufficient treatment by antitoxic serum. Each hour's delay in providing this treatment adds to the patient's danger, and if not provided within the first four or five days at the latest, the outlook for recovery is very poor, especially in severe infections. From reliable statistics it is clearly shown that the death rate in diphtheria rises appreciably for each day's delay in the administration of curative serum. Therefore, to repeat previous assertions, it cannot be too strongly emphasized that the effectiveness of serum therapy depends upon its earliest possible employment. The evidence is overwhelming that by far the most important single factor in the success of treatment with antitoxin is the time factor. "Every hour, every minute of delay—and this is not a figure of speech—is damaging. If the amount of toxin (in the blood) is near the lethal dose, life itself is at stake." (Schick).

There are two points which it is important for teachers and parents to bear in mind :

(1) Diphtheria, in the early stages, may appear to be a very mild infection.

(2) It is considered that children with nasal diphtheria are the commonest sources of infection, particularly in schools and hospital wards.

In no disease is the "carrier" problem more important. A child with nasal diphtheria may mix for weeks with other children before the real nature of the blood-stained, yellowish discharge from the nostrils is determined. From the discharge, virulent diphtheria bacilli may be recovered in almost pure culture. The discharge, which is irritative, frequently gives rise to sores about the nostrils or on the face. These sores are intractable unless their real nature is discovered and diphtheria antitoxin injected.

The primary lesion in diphtheria is due to a local attack by the Klebs-Loeffler bacillus ("Bacillus diphtheriae"), but most of its manifestations are produced by the diffusion into the body tissues of a powerful exo-toxin or poisonous substance. In this respect the disease resembles Scarlet Fever, but whereas the scarlatinal streptococcus can assume invasive qualities and so cause further complications, this occurs only very rarely in diphtheria.

The early signs of a typical case are more constitutional than local, and it is rare for a sore throat to be complained of at the onset There is as a rule none of the pain and difficulty in swallwing which. ushers in an attack of acute tonsillitis. Sometimes, however, these latter symptoms may be predominant in a case of coincident infection with the haemolytic streptococcus. Clinically in the ordinary case of diphtheria in children, the child looks rather pale, but not very ill, and the temperature in the early stages is never as high as in a severe tonsillitis. In fact the wise clinician, called to see a case of sore throat in a child, who finds a temperature of from 99 degrees to 101 degrees F. with perhaps a slight exudate on the tonsils is immediately suspicious that the case may be one of diphtheria. Unfortunately parents are easily misled by the mildness of the disease in the early stages, and often neglect to send for medical assistance until it is too late. This seems to be especially the case in rural districts, where the medical attendant is not so near at hand as in the towns. There may be great difficulty in the diagnosis of laryngeal diphtheria, but **every attack of croup in a child should be considered to be diphtheritic until such time as proved otherwise.** If in conjunction with the laryngitis there should be exudate, however slight, on tonsils or fauces, or if there is an accompanying discharge from the nose, the diagnosis of diphtheria should be made with confidence.

As mentioned in a previous paragraph the presence of a blood-stained nasal discharge may be the only indication of nasal diphtheria in an apparently healthy but infective school child. However, bacteriological examination of the discharge should settle the question of etiology. It is worth bearing in mind that the persistence of a blood-stained unilateral nasal discharge should always suggest the possibility of a foreign body being present in the nose. Instances of combined foreign body and nasal diphtheria are not unusual.

TABLE SHOWING NUMBER OF CASES OF DIPHTHERIA NOTIFIED AND NUMBER OF DEATHS REGISTERED FOR EACH OF THE YEARS 1930 to 1938 (Co. Donegal).

YEAR	No. of Cases Notified	No. of Deaths Registered
1930	38	5
1931	23	7
1932	32	8
1933	80	7
1934	74	11
1935	70	8
1936	34	4
1937	80	8
1938	61	9

COMPULSORY IMMUNISATION IN FRANCE.

The following addition to the public health code of France was recently promulgated, having been passed by the Senate and the Chamber of Deputies :—

" Anti-diphtheritic vaccination by anatoxin is compulsory during the second or third year of life. Parents or guardians are held personally responsible for the carrying out of the said measure, of which proof must be furnished on admission to any school, creche, holiday colony, or any other assembly of children.

" During the first year of the application of the present Article, all children of less than 14 years attending schools who have not yet been vaccinated against diphtheria, shall be made to undergo this vaccination.

" Public Administration Regulations, drawn up after consultation with the Academy of Medicine and with the Public Health Consultative Committee of France, shall lay down the measures required for the application of the above provisions."

As the editorial commentator in " Public Health " (an English monthly journal) remarks : " Many of us will envy our French colleagues this adoption by the land of liberty, equality and fraternity of a measure for which public opinion and Parliament in our own free country (England) are not yet prepared, but which would undoubtedly save many preventable illnesses and deaths, and much expenditure of money on hospital treatment."

A striking comparison of the preventive measures taken against diphtheria and the results of such measures is found in the following extract from the Annual Report of the Chief Medical Officer of the Ministry of Health for the year 1937 "On the State of the Public Health," London, 1938, pages 53-55:

"In 1937, 61,339 cases of diphtheria were notified as compared with 57,795 in 1936 and 65,084 in 1935. The fatal cases numbered 2,963, giving the fatality rate of 4.8 per cent. as compared with 5.3 per cent. and 5.4 per cent. in 1936 and 1935 respectively. In diphtheria we appear to have reached a position of stability so far as incidence is concerned within the limits of what may be regarded as normal fluctuation, and it is doubtful whether any marked diminution of incidence can be expected by procedure along the old lines of "notification, removal and disinfection."

Approximately 90 per cent. of cases of diphtheria occur under the age of 15 years. By that time the great majority of individuals have become immunized by the subclinical infection. This is a measure of the amount of natural subinfection which is constantly taking place. The acquisition of immunity by natural means postulates a diphtheritic environment. It is a lengthy process and is obtained at the expense of a number of clinical cases, and possibly of deaths, whereas artificial immunity if carefully conducted by experts is without these risks and can be acquired in as many months as the natural process takes years. A clear indication would appear to be to induce a wider adoption of artificial immunization, such as has been practised in certain cities of the United States of America and in Canada with extraordinary success.

Results of Immunization in North America.

In New York immunization against diphtheria has been a practice for about twenty years. An intensive campaign began in 1929, and by the middle of 1935 more than 1,110,000 children under the age of 15 years were immunized in addition to those protected in previous years.

Before 1929 comparatively little attention has been paid to children of pre-school age on whom, as previously pointed out, the maximum incidence and fatality falls, but in 1929 in New York special attention was paid to the children, and the total number of immunized persons rose from 212,000 in 1929 to 1,114,325 in 1935. Of this last number 650,000 were under the age of 6 years and it is estimated that between 65 and 70 per cent. of them had been protected. There resulted a reduction in diphtheria incidence from 8,548 cases in 1929 to 1,143 in 1936. That is to say, the incidence in the latter year was about one-eighth what it had been in the former. During the same period the deaths diminished from 463 to thirty-five. The later figures represent a reduction in the diphtheria death rate in the age period 1 to 15 from 27.1 to 2.1 per hundred thousand. The corresponding figures for England and Wales are 32.8 and 31.8 respectively.

In Montreal, among a population of 657,000 in 1928 when immunization was commenced, there were 1,632 cases and 157 deaths from diphtheria. Both incidence and mortality fell pari passu with immunization until in 1935 there were 183 cases and twenty-one deaths, approximately one-tenth of the figures recorded in 1927. As in New York, a particular effort to secure the protection of young children was made and it was calculated that by the end of 1935 over 50 per cent. of the child population under the age of 12 was immunized. Among other smaller cities of Canada showing an almost similar record are Toronto (650,000), Hamilton (150,000), where there has been no case of diphtheria notified since 1933 and no death since 1930, Brantford (31,382) and St. Catherines, Ont. (27,000). Of Brantford it is said that no child has suffered from diphtheria since 1930, and from that date no resident of St. Catherines has died from diphtheria.

These results have been achieved only by intensive propaganda on the part of local authorities, assisted in some degree by insurance interests, and it is, of course, necessary to ensure that the immune population thus obtained is not unduly diluted with non-immunes in the persons of recently born infants, for, as Dr. Graham Forbes recently observed, the further success of immunization must be dependent on the respective campaigns being continuous and unremitting in order to keep the protection rate at least equal to one-half the number of births each year.

It is now six years since the Minister issued his memorandum on "The Production of Artificial Immunity against Diphtheria" and drew the attention of local authorities to the advantages of this process, at the same time expressing the opinion that the public should be made aware of them, and, where practicable, parents and guardians of children over 1 year of age should be offered the necessary facilities for protection. A survey of the Annual Reports for 1936 of medical officers of health, the last complete available information, shows that local authorities generally are well acquainted with the memorandum and continuous if slow progress is being made, particularly in some of the larger provincial cities, although none of them have yet succeeded in immunizing the 50 to 60 per cent. of the child population which is necessary before the incidence of the disease is affected. Chester, with an estimated number of 45 per cent. is probably the best immunized town in the country; then follows in close order Birmingham, Walsall, Worcester, Leeds, Manchester and Chatham, all of which are in the neighbourhood of from 35 to 40 per cent. Other towns with more than 30 per cent. are Wood Green, Wakefield, Salford, Blackburn, Swindon, Cardiff and Acton. London (all the metropolitan boroughs combined) appears very low in the list, with an estimated number of 5.3 per cent. of her child population immunized.

It may be said in eonelusion that artifieial immunization against diphtheria as donc in the Unitcd States and Canada has been attended by extraordinarily good rcsults. This work has to be persisted in over a long period of time before the necessary number of immunes are obtained to affect the incidenee of the disease. It is unfortunate that the exact technique, preparation of vaccine and method of administration are still matters of medieal eontroversy. It is probable that the laek of a general standard has militated against the more general adoption of antidiphtheritie immunization in this country. It is a form of preventive treatment whieh in the future may succeed in eradieating diphtheria from our midst and thus save countless lives. It is desirable that medieal praetitioners should aequaint themselves with the Minister's memorandum, and, if possible, gain practieal experienee at a clinic where immunization is done, in order that they may be familiar with the method when ealled on to apply it.

The medieal offieer of health of the county or eounty boroug[h] coneerned is usually able to make the necessary arrangements for medical praetitioners to acquire experienee in the technique employed in Schiek testing and immunisation, and applications should be made to him.

HOUSING.

The following table shows the number of new houses completed and the number of houses reconstructed in Eire under the Housing (Financial and Miscellaneous Provisions) Acts, 1932-37, up to December, 1938.

COUNTY	NEW HOUSES COMPLETED			Houses reconstructed by private persons (Rural Areas Only).	TOTAL
	Local Authorities		Private Persons and Public Utility Societies (Urban and Rural Areas).		
	Urban Areas	Rural Areas			
Carlow	294	631	83	390	1,398
Cavan	158	214	400	541	1,313
Clare	232	429	679	339	1,679
Cork (excluding Co. Borough	624	877	1,825	4,573	7,899
Donegal	198	394	496	234	1,322
Dublin (excluding Co. Borough	700	933	2,524	70	4,227
Galway	649	422	1,938	1,387	4,396
Kerry	451	170	1,915	933	3,469
Kildare	356	548	202	95	1,201
Kilkenny	332	532	118	452	1,434
Laoighis	178	392	129	358	1,057
Leitrim	—	147	326	453	926
Limerick (excluding Co. Borough	44	919	622	329	1,914
Longford	70	332	91	1,246	1,739
Louth	1,237	459	424	1,345	3,465
Mayo	644	195	2,458	1,414	4,711
Meath	305	803	140	400	1,648
Monaghan	336	179	749	782	2,046
Offaly	366	340	217	504	1,427
Roscommon	58	286	717	830	1,891
Sligo	384	260	646	394	1,684
Tipperary (N.R.)	498	770	151	199	1,618
Tipperary (S.R.)	815	794	153	386	2,148
Waterford (excluding Co. Borough	90	417	124	493	1,124
Westmeath	307	437	213	381	1,338
Wexford	629	918	285	422	2,254
Wicklow	609	847	270	273	1,999
County Boroughs.					
Cork	1,148	—	476	—	1,624
Dublin	6,864	—	6,415	—	13,279
Limerick	670	—	365	—	1,035
Waterford	621	—	54	—	675
TOTALS	19,867	13,645	25,205	19,223	77,940

It will be obvious from this table that the provision of housing has lagged considerably in Donegal compared with rather similar counties such as Galway, Kerry and Mayo. It seems rather surprising that a county like Cavan (population 76,641, area 467,162 statute acres) should have practically the same total for housing as Donegal (population 142,192, area 1,193,573 statute acres). Taking the counties as given in the table, the lowest total of housing was provided by the following.

County.	Population.	Total Houses.
Leitrim	50,876	926
Laoighis	49,954	1,057
Kildare	57,737	1,201
Cavan	76,641	1,313
Donegal	142,192	1,322

Of course as pointed out last year, Donegal is rather handicapped in being at such a distance from the centre of Eire. This results in difficulties of transport of materials with increased costs and often long delays, so that contractors are rather chary of undertakings which will have to be completed in a specified time, regardless of incommoding factors. It would appear also that the building programme in Donegal was very slow at its inception compared with most of the other counties in Eire.

The figures for the five counties cited above were as follows at November 30th., 1936:

Leitrim	446
Laoighis	620
Kildare	856
Cavan	660
Donegal	755

LETTERKENNY

The capital town of Letterkenny has been rather unfortunate in regard to the provision of housing requirements. Owing to an unhappy combination of circumstances, housing projects begun in 1935 are still in abeyance, and are apparently likely to be so for another indefinite period, as a result of the Ministerial decision promulgated in November, 1938. This decision, as reported in the local Press, is to the effect that, as a result of the Sworn Inquiry held by Mr. Hogan, B.E., for the Government, in September, 1937, the Minister is not prepared to confirm the Clearance Orders made by the Urban Council. The Minister's letter set forth "that he had under considera-

tion the evidence and report of the inspector who held a public local inquiry as to the propricty of confirming Clearance Orders. An examination of the evidence taken at the Inquiry disclosed that in some cases the condition of the houses included in the Orders could be effectively remedied otherwise than by total demolition. An analysis of the inspector's report, following his inspections, indicated that some of the houses could be repaired at a reasonable cost."

"In the circumstances the Minister was not prepared to confirm the Orders, and the Council should accordingly consider taking action under Part 3 of the Act of 1931 with regard to the buildings scheduled in the Order."

In answer to a query as to Part 3 of the Act, Mr. Cannon, Secretary to the Urban Council, said that it provided for the clearance of individual unhealthy houses in individual demolition areas, or notices to repair them where capable of repair. The Council had been working under Part 2 of the Act, which allowed them to group unfit houses in areas.

It may perhaps be as well, for the sake of clearance, to recapitulate the stages leading up to the present impasse.

July 16th., 1935: Detailed report submitted to the Urban Council by the late Dr. O Deagha.

March 18th., 1936 : Dr. O Deagha's "official representation" (housing report) finally adopted by Urban Council and the surveyor instructed to make maps of the proposed clearance areas.

18th., May, 1936: **Resolutions** were passed declaring the areas to be "Clearance Areas" and Dr. Bastible asked to make a detailed report (owing to the death of Dr. O'Deagha). The Council refrained from making the Clearance orders until receipt of my report.

30th., August, 1936: Detailed report handed in by me in conjunction with Mr. C. McLaughlin, Architect.

9th., September, 1936: The Clearance Orders were made by the Urban Council and the areas were declared "Clearance Areas."

21st. September, 1937: As a result of several objections to the Demolition Orders and Clearance Orders recommended in the Housing Survey of 1936, **an official sworn inquiry** was held in the Courthouse, Letterkenny.

28th. November, 1938: Result of inquiry promulgated by means of the Minister's letter already referred to in the beginning of this section.

Thus after awaiting the result of the inquiry for over a year the Urban Council are almost as far back as ever in their efforts to promote the town's housing needs.

During the course of the Inquiry Mr. McGilligan, B.L., pointed out, for the objectors. that there were apparently several important legal defects in the manner in which the Council had proceeded with regard to the making of the Clearance Orders. Be that as it may, the Urban Authority are now compelled to have practically the whole former procedure repeated all over again in order to comply with the legal requirements of Part 3 of the Act.

As many people were anxious to arrive at the true facts regarding the housing problem in Letterkenny a special report was made by the "Derry Journal," over two years ago, and the following is the account of the findings as furnished by that paper on November 27th, 1936:.

"Headquarters in the County for most of the State services Letterkenny with a rapidly increasing population possesses a housing problem of first-class magnitude. The shortage of houses in the town can only truthfully be described as gravely critical. Despite repeated agitation locally, nothing definite has been done either by the local Council or the Department to speed up the proposed erecting of sixty houses which never in all the history of the town were so badly needed as they are today.

Such is the position in Letterkenny that strangers to the town have to take rooms and many of them have been without any other accommodation for years; officials transferred to the town from other centres oftentimes cannot bring their wives and families with them—there are no houses to bring them to, and so in Letterkenny there are wage-earners who are keeping themselves. and at the same time providing for a wife and family away in another town. In other cases recourse has had to be had to farmhouses for accommodation. many of these farms being two to three miles beyond the town boundary.

Once a dwelling becomes vacant there is a regular scramble for possession, the landlord being bombarded with a shoal of applications from people, many of whom are willing to pay almost any rent asked. This of itself is an evil. for Gardai and other officials possessing housing allowances are able to bid as high as 15s and £1 weekly for houses that normally let at rents of from 5s to 7s 6d. Married officials will offer almost any price to get a home for themselves and their families.

Recently a well-known public man complained that marriages in Letterkenny were becoming a rarity. Is this to be wondered at when young couples embarking upon matrimony must face the cheerless prospect of years in rooms before they can get a house to themselves? Can it be doubted that the housing shortage is holding back many marriages in the area?

New houses are urgently needed. The town has a growing population and there is an imperative demand that something speedily be done to remedy a situation that ought never to have been allowed to exist. At present the Urban Council has a scheme for the building of sixty houses: more are promised when these are completed, but there has been such lengthy delay over this present scheme that townspeople are sceptical the houses ever will be erected. At the very least, 200 new houses are needed, before the shortage can be said to have been met. It is estimated that there are 189 families living in rooms in Letterkenny: and what of the numbers who are residing in farms adjacent to the town ?

Many of these houses in which there is grave overcrowding contain no more than three or four rooms.

An added aggravation of the housing shortage is the question of condemned dwellings. Dr. M. J. Bastible, Co. M.O.H., following an inspection of the housing needs of Letterkenny, presented a report in which many houses were recommended for total demolition. These cannot be removed until alternative accommodation is provided for their inmates, and must remain despite the danger to health until the long-delayed housing scheme is completed.

Since the advent of the Fianna Fail Government, and the consequent tightening-up of the Border, new industries have been commenced in the town. Many of the people employed in these are strangers from across the Border and are compelled to live in rooms in Letterkenny at rents far above what they would ordinarily pay for a decent-sized house. They must live in rooms, and consider themeselves lucky that they can get a room at all.

Other towns in Donegal are going ahead in regard to housing; Letterkenny by contrast, makes a very poor showing. Buncrana has completed an admirable housing scheme at St. Mary's Road, and has a similar scheme almost completed at the Castle Field site. A few months ago Mr. S. T. O'Kelly, Minister for Local Government, officially opened several blocks of new houses at Ballyshannon.

Letterkenny would like to see Mr. O'Kelly coming down to perform a like pleasant service for the town.

At Carndonagh, private enterprise is providing many neat dwellings; Letterkenny of all towns in the County is lagging behind in the matter of providing those houses for which the people are crying out.

What is wanted in Letterkenny is not some petty scheme of fifty or sixty houses, but literally hundreds of houses, with 200 dwellings for a start. The town's increasing population is constituting a problem which, if permitted to continue unchecked, will soon be beyond the ability of the local authorities to handle. New houses should be provided to end this appalling overcrowding.

The Urban Council avers it is doing its best to further the scheme at present on hands. This scheme has been under consideration for over two years, and nothing has been done beyond the preparing of plans and the applying for a grant. The Council blames the Department for the delay, and so finality cannot be reached.

Meanwhile, the housing problem assumes greater proportions!''

No further housing activities have to be reported in either Buncrana or Bundoran. As pointed out in last year's report, there is urgent need for more housing in Buncrana. Practically all public works have been held up in this town, however, as a result of some obscure financial trouble involving the Harbour Board and the central authorities. I understand that a settlement of the dispute is likely to be arrived at in the near future, and it is to be hoped, therefore, that the provision of new housing will then receive adequate recognition.

COUNTY HEALTH AREA.

I am indebted to the Secretary of the Donegal County Board of Health and Public Assistance for the following statement re Labourers' Cottages :—

(1) 79 cottages were completed during the year.

(2) 35 cottages were in the course of erection at the end of December, 1938.

(3) 2 houses were voluntarily demolished during the year.

(4) A Public Local Inquiry was held during the year as to the propriety of confirming the Compulsory Purchase Order made by the Board for the acquisition of sites for 507 cottages, but, up to the end of the year the result of that Inquiry had not been announced

HOUSING (Gaeltacht) ACTS.

I am indebted to the Roinn Tailte for the following information in regard to the working of the Housing (Gaeltacht) Acts in Donegal :

(1) Number of Applications for Grants available under above Acts	3,685
(2) Number of Applications granted	2,079
(3) The amount allocated for above	£156,453 5 0
(4) The amount paid	£89,078 2 3

With regard to (2) above, there are 552 cases in which the work was not proceeded with, and the amount allocated for these was accordingly withdrawn. The net result was, therefore, that 1,527 cases were sanctioned, and for these £113,630 16s 5d was the sum allocated.

The above information covers the period from the passing of the Housing (Gaeltacht) Act, 1929, until 31st December, 1938.

Housing (Inspection of Districts) Regulations, 1936.

These have been complied with in the Urban Districts. For the County Health District, the Board of Health, by Order made on 19th December, 1938, directed that reports on unhealthy houses be obtained from the District Medical Officer of Health in the Dispensary areas of Castlefin, Donegal and Moville.

TOWN SANITATION.

The largest and most interesting water scheme commenced during the year was that of the Rosses Regional Water Supply. It has been designed to distribute water over a rural area as distinguished from the more usual form of supply to towns and centres of large population. The district included in the full scheme extends from Derrybeg to Burtonport, and embraces Derrybeg, Bunbeg, Gweedore, Crolly, Meenaweel, Ranafast, Mullaghduff, Annagry, Kincasslagh, Burtonport and Acres, a truly Gaeltacht area where the National language is still a living force. Due to a geological formation which is mostly granite, there are scarcely any wells in this large section of the County and people depend on collected roof water, together with such open streams as are available. The shortage of water has been a recurring problem for the Board of Health for many years. Recently however, owing to the large annual influx of students

to the Irish Summer Colleges the position became more acute and the absolute necessity arose of providing a supply of potable water, if the incidence of epidemic disease was to be prevented.

The source of the new supply is Lough Keel, some two miles south of Crolly Bridge. A water main has now been laid from this lough to Crolly Bridge, where two main branches are made, one going to Bunbeg and the other to Annagry, with a sub-branch to Ranafast. All these pipes have been laid, and the Board has made preliminary arrangements for continuing them as far as Derrybeg and Kincasslagh. Filters and a service reservoir are provided betwen Lough Keel and Crolly, and a number of street fountains along the line of pipe will permit the water to be drawn off for use where it is not laid on to private premises. It is, however, anticipated that many of the houses will take direct supplies. Fire hydrants, distributed over the district, will also be provided.

It is hoped that, by the construction of the part of the scheme which is in hands, conditions in the district served will be ameliorated, but it will be necessary to complete the entire scheme as early as possible.

The length of main pipes laid in the section dealt with is ten miles, and the constructional cost, including service reservoir and filters, is £18,897 12s 11d.

DONEGAL.

In the town of Donegal a new covered service reservoir was constructed at a cost of £985, to replace an open reservoir which was leaking. Although this reservoir and a new filtration plant have now been provided, the old trunk main which conveys the supply from Lough Cullionboy to the town still remains. The Board's Consulting Engineer has reported on several occasions that owing to its age (nearly 40 years), and the amount of internal incrustation and frequent breakages due to its position in a main road carrying heavy traffic, an efficient supply to the town cannot be obtained from it, and that a new main is required.

The local public health committee have made several representations to the Board regarding the present unsatisfactory state of the water-supply, despite the outlay of some £2,000 last year. Following the severe frosts in the winter of 1938, the water-supply has been very inadequate. There has been no improvement at the time of writing (March 1939), in spite of repeated efforts to locate the causes of the leakage in the old worn-out main. As mentioned above the Consulting Engineer is very definitely of opinion that a new main will require to be laid before a satisfactory water-supply can be obtained. A new

sewerage system has, furthermore, been installed in this town, and when all connections have been made there will be an increased demand for water. No time should be lost, therefore, in arranging for the installation of the new main. Donegal is one of the largest towns in the County, and the public health department can only regard with misgivings the prospect of a prolonged water shortage for its population of 1,200 people.

MILFORD.

A new trunk main was laid in Milford, at a cost of £750, giving this old supply a new lease of life and leaving it now in a satisfactory condition.

KERRYKEEL.

An extension to the waterworks at Kerrykeel, along the main road to provide for building development on the outskirts of the town, was carried out at a cost of £270.

CARRICK.

A new supply to the town of Carrick was provided, costing £2,649. The water in this case is collected from springs which rise on the slopes of Slieve League. It is conveyed to a service reservoir and thence to the town, where it is distributed.

MOUNTCHARLES.

New Filters of the open sand type were constructed at Mountcharles.

PORTHALL.

Amongst the minor water schemes a new well was formed at Porthall.

FAHAN.

Plans and specifications were prepared and a contract arranged, towards the end of the year, for supplying the district of Fahan with water. The source is a series of springs which are collected and impounded in a concrete reservoir, and conveyed along the public roads. The contract price is £3,232 12s 0, and it is expected that the water will be turned on to consumers in the summer of 1939.

BALLYSHANNON.

In regard to sewerage schemes the completion of the project for the town of Ballyshannon was proceeded with and new sewers have been laid on the South side of the river Erne. Owing to sections of this side of the town being under the floor levels of the river, it has been found necessary to include a pumping plant in the design. The work is expected to be completed early in the coming year.

SLAUGHTER OF ANIMALS ACT, 1935.

The prineipal points in this Aet were summarised in last year's annual report. As stated therein, the object of the Act is to provide for the proper treatment of animals in slaughter-houses, the humane slaughter of such animals by approved instruments, and the lieensing by the Sanitary Authority of persons using sueh instruments.

The Board of Health have, likewise, power to make bye-laws for :—

(a) seeuring the deeent and seemly eonveyance of meat through publie thoroughfares,
(b) the inspeetion of meat to be sold for public consumption, and
(c) prohibiting the sale for human eonsumption of meat whieh has not been inspeeted in accordanee with sueh bye-laws.

This matter of bye-laws is in abeyance for the moment, pending the framing of model bye-laws by the eentral authority. The Aet has been adopted, however, by the Donegal Board of Health and Publie Assistanee, and all slaughtermen have now to be lieensed, and their premises are open to reasonable inspeetion.

It is hoped that the working of this Aet will do mueh to improve the quality of meat prepared for human consumption.

MEAT INSPECTION.

As regards meat inspeetion generally, there are five Veterinary Inspectors in the County who inspect carcases in slaughter-houses at regular intervals. They also attend at fairs and markets and seize any animals suffering from infectious or dangerous diseases.

The following are the five Veterinary Inspectors at present operating in County Donegal :—

Name of Veterinary Inspector.	Address.
F. McShane.	Donegal.
R. Marner.	Carndonagh.
L. McIlhargey	Milford.
P. McGlinchey.	Letterkenny.
T. A. McClintock.	Dungloe.

TUBERCULOSIS.

The projected central dispensary premises in Letterkenny have not yet materialised. It will be recalled that plans were originally drawn up for a combined nurse's home, a tuberculosis and maternity and child welfare clinic. The project which, apparently, had been dropped on the death of my predecessor was again revived in 1937, and several representations have been made to the Department on the matter but no practical steps have, so far, been taken to proceed with the erection of the clinic. The present premises are very damp and congested and entirely unsuitable in every way for the purpose of a tuberculosis clinic.

Clinics for the diagnosis, treatment and prevention of tuberculosis are held as follows : —

Each Fortnight — At Letterkenny. Carndonagh, Donegal, and Glenties.

Each Month—At Dunkineely, Carrick, Ardara, Dungloe, Pettigo, Ballyshannon, Milford, Tamney, Carrigart, Buncrana, Clonmany, Muff, Moville, Stranorlar, Raphoe, Lifford, Dunfanaghy, Falcarragh, Bunbeg, and Frosses.

Arranmore Island is visited as required by the local Medical Officer. In addition, suspected cases are visited in their own homes at the request of their own doctor, or of any other responsible person interested, provided the dispensary doctor is agreeable.

Attendance at Clinics.

January.....197	February.....210
March.....118	April.....172
May.....180	June.....161
July.....159	August.....139
September.....147	October.....158
November.....175	December.....179

The examination of contacts is urged on all our patients, and in most cases they respond readily. Those contacts who are found to exhibit any clinical signs of disease are immediately x-rayed, and if necessary sent away for treatment. All contacts

are kept under observation for varying periods of from six months to a year, and are periodically overhauled in order to detect any suspicious signs of disease.

An arrangement has been made with the Board of Health whereby patients from the south of the County may be x-rayed by Dr. Daly in the Sheil Hospital, Ballyshannon and those from the north by Dr. McGinley, in Letterkenny Hospital. Both doctors have been working under this scheme during the year, and have given every satisfaction. They have been very co-operative in regard to convenience of patients, and the standard of their x-ray work has been very good.

One result of the x-ray facilities now available at Letterkenny is that a female patient who had been having Artificial Pneumothorax treatment elsewhere has been having refills under this department for some months. This treatment requires constant check by x-ray examination which is now available when required.

The following table gives the annual notifications of all forms of tuberculosis in Co. Donegal, together with the separate figures for deaths from pulmonary and non-pulmonary forms.

Year	Notifications	DEATHS REGISTERED		
		Pulmonary	Other Forms	TOTAL
1930	246	151	45	196
1931	150	122	35	157
1932	98	111	43	154
1933	89	120	30	150
1934	91	103	38	141
1935	80	106	36	142
1936	75	107	20	127
1937	59	93	35	128
1938	65	100	34	134

It will be noted that there has been a fairly uniform decline in both sets of figures over the period indicated. (The first appointment of a County Medical Officer of Health was in 1930). The death-rate (all forms) for the year 1938 was 95 per 100,000 of the population. This calculation is based on the 1936 census return for County Donegal (population 142,192). If the latest current figures for population (142,310) be taken, the death rate is 94. The death-rate (all forms) for the year 1930 was 129 per 100,000, based on the population census figure of 1926

(152,508). Thus there has been a substantial reduction over the nine-year period in the mortality from this dread disease. If we take the figure for 1938 as 95, the mortality has been reduced approximately by one-quarter of the figure for 1930, while the number of notifications has been reduced by almost three-quarters.

While the reduction in the death-rate is a matter for satisfaction in itself, we are apt to forget how far behind we are in anti-tuberculosis work compared with neighbouring countries. If we take the year 1937, the following table shows the significant figures for the four areas involved.

	Number of Deaths from Tuberculosis			Rate per 100,000 of the population.		
	Pulmonary	Other Forms	Total	Pulmonary	Other Forms	Total
England and Wales	23,970	4,559	28,629	58	12	70
Scotland	2,791	872	3,663	56	18	74
Northern Ireland	972	279	1,251	76	22	98
Eire	2,825	757	3,582	100	20	120

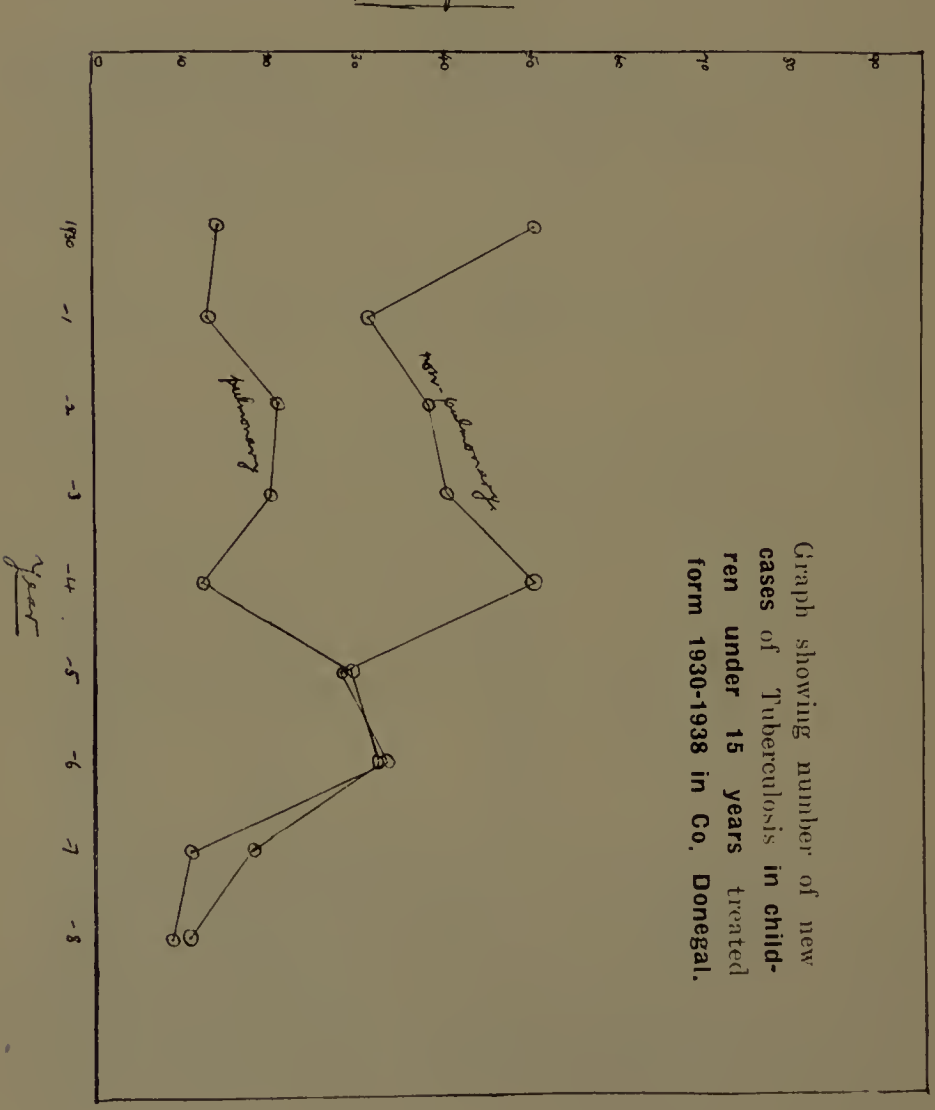
The National Tuberculosis Association of America has recently announced that the death-rate from tuberculosis in that country dropped from 55.5 per 100,000 in 1936 to 53.5 in 1937, the lowest ever reported. The 1936 rate was the highest in ten years, an increase attributed to the cumulative effects of the depression. In 1936, 71,239 persons died of tuberculosis, and in 1937 the number was 69,151.

Speaking in the Dail in March 1939, Mr. S. T. O'Kelly stated : "The slight increase in mortality from Tuberculosis in Eire reported in 1937 has been followed in 1938 by a definite decrease to 2,464 deaths frim pulmonary tuberculosis, compared with 2,854 in 1937, and 686 deaths from non-pulmonary tuberculosis, compared with 785 in 1937. The figures for 1938 represent a rate of 80 per 100,000 of the population (pulmonary tuberculosis), and 20 (non-pulmonary) making a total of 100 per 100,000. This, said Mr. O'Kelly, is the lowest rate yet recorded here."

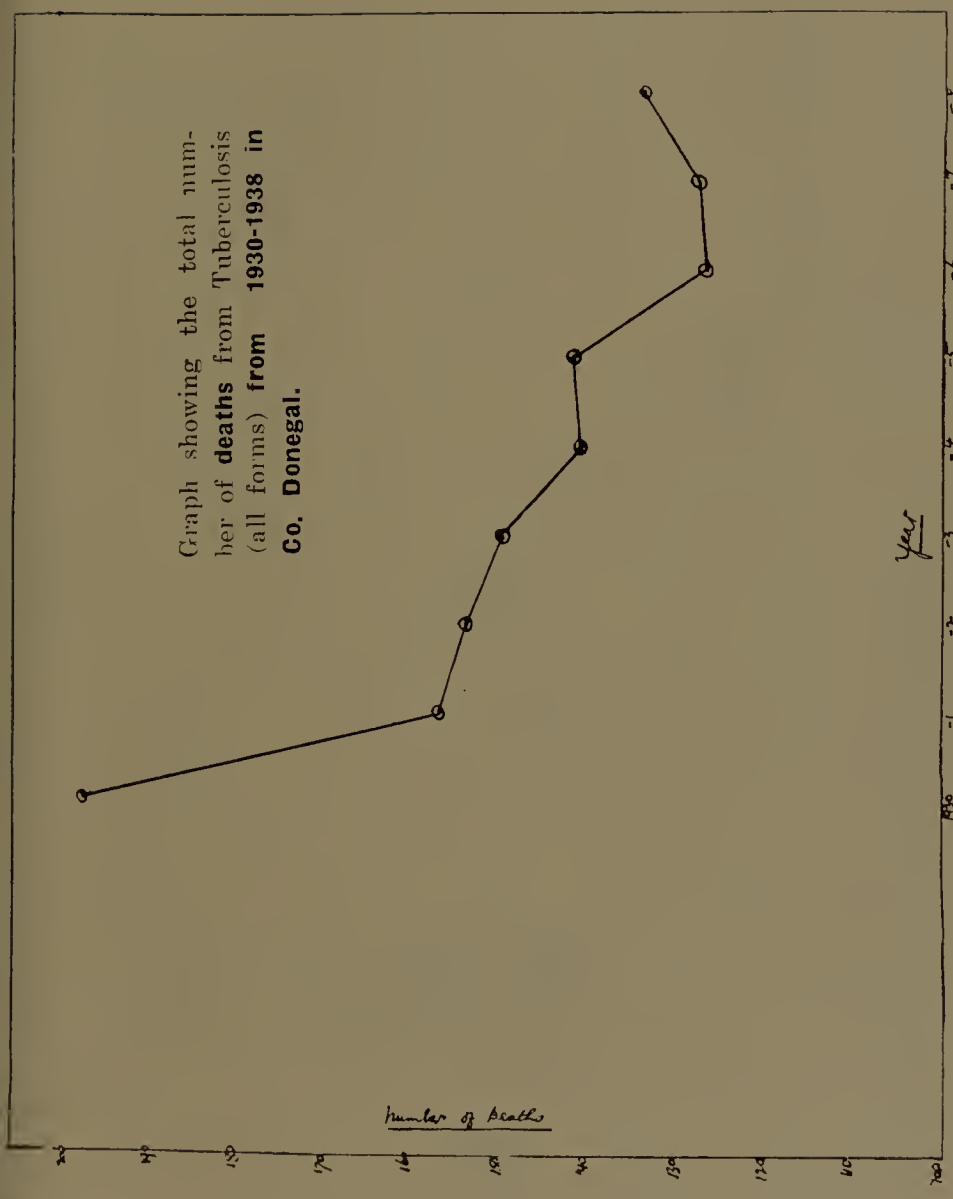
Nevertheless it is still about 30 per cent. higher than that of England and Wales or of Scotland, and therefore there is scope

for much unremitting work and propaganda before we can hope to reach even the by no means ideal standard set by Great Britain in the prevention and treatment of this disease.

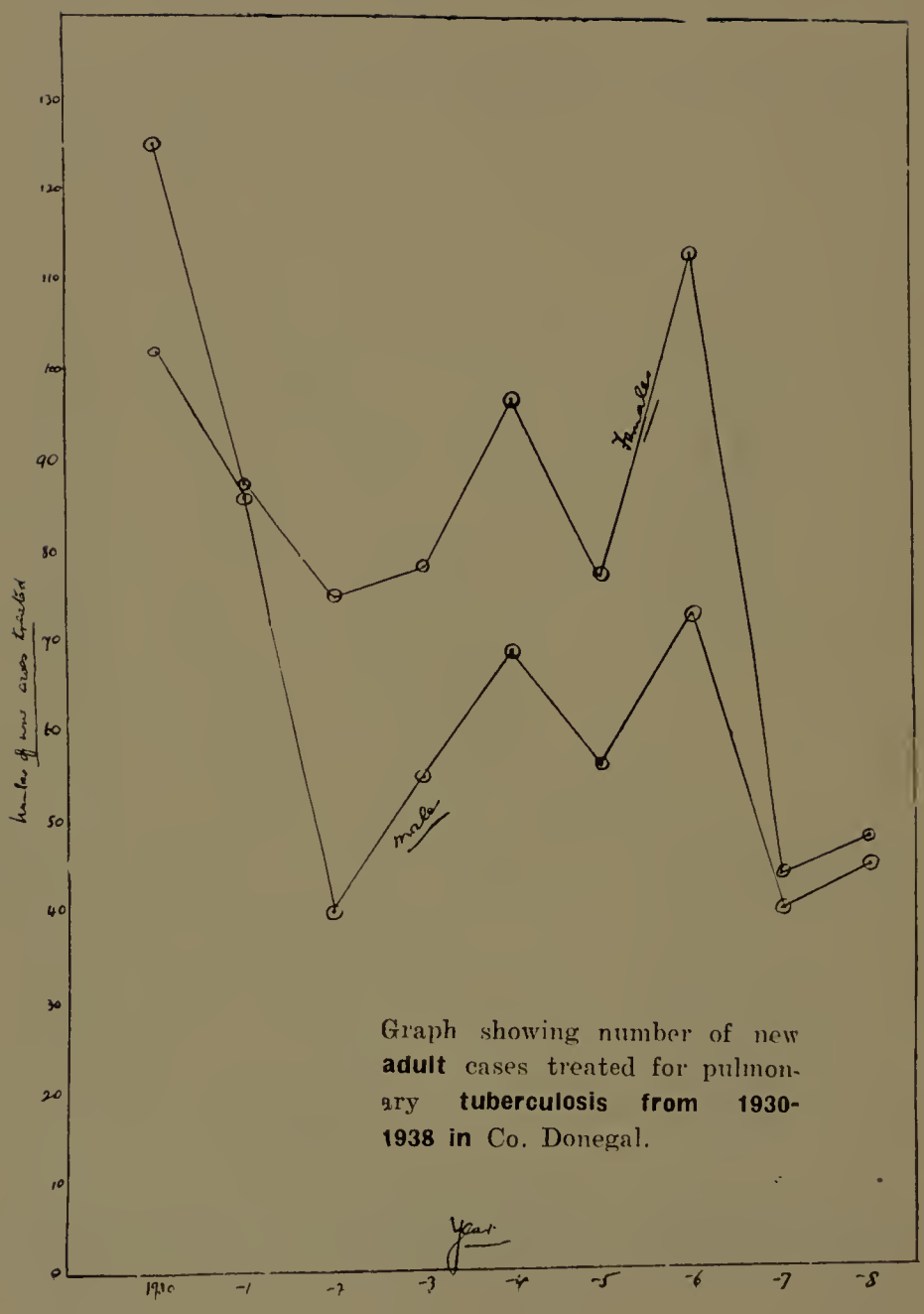
The accompanying figures give an idea in graphic form of the course of the disease in County Donegal for the period 1930 to 1938 inclusive.



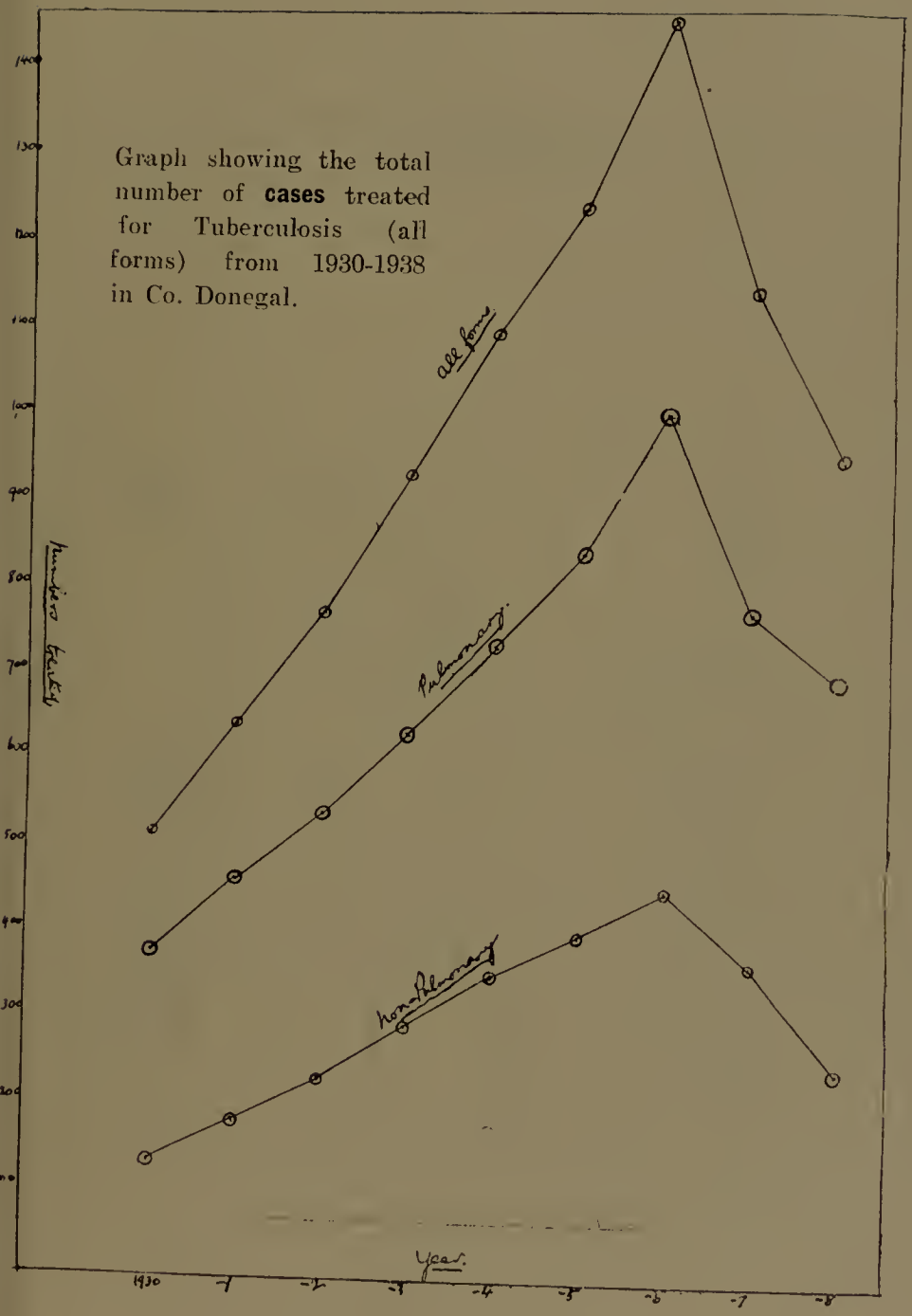
Graph showing number of new cases of Tuberculosis in children under 15 years treated form 1930-1938 in Co. Donegal.



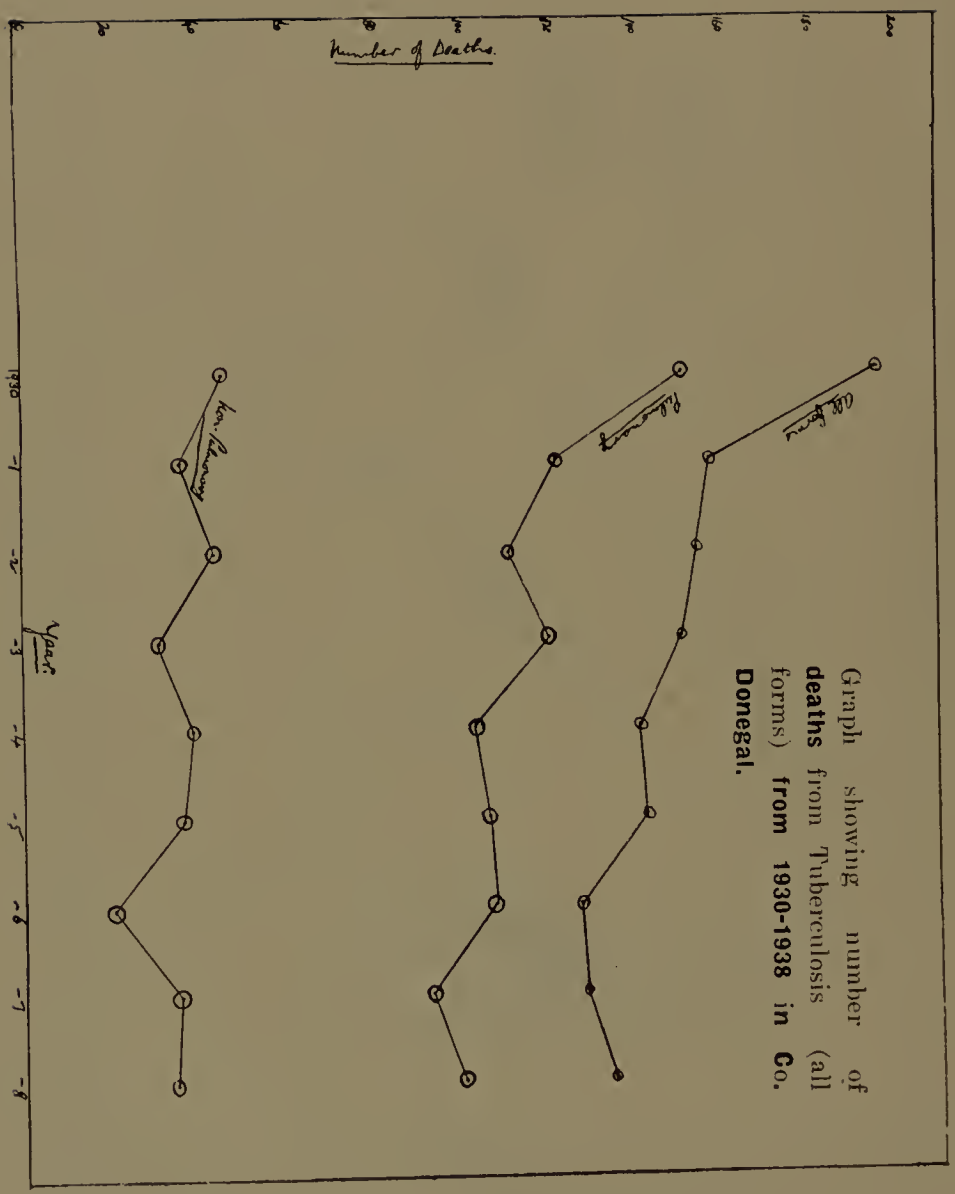
Graph showing the total number of **deaths** from Tuberculosis (all forms) **from 1930-1938 in Co. Donegal.**



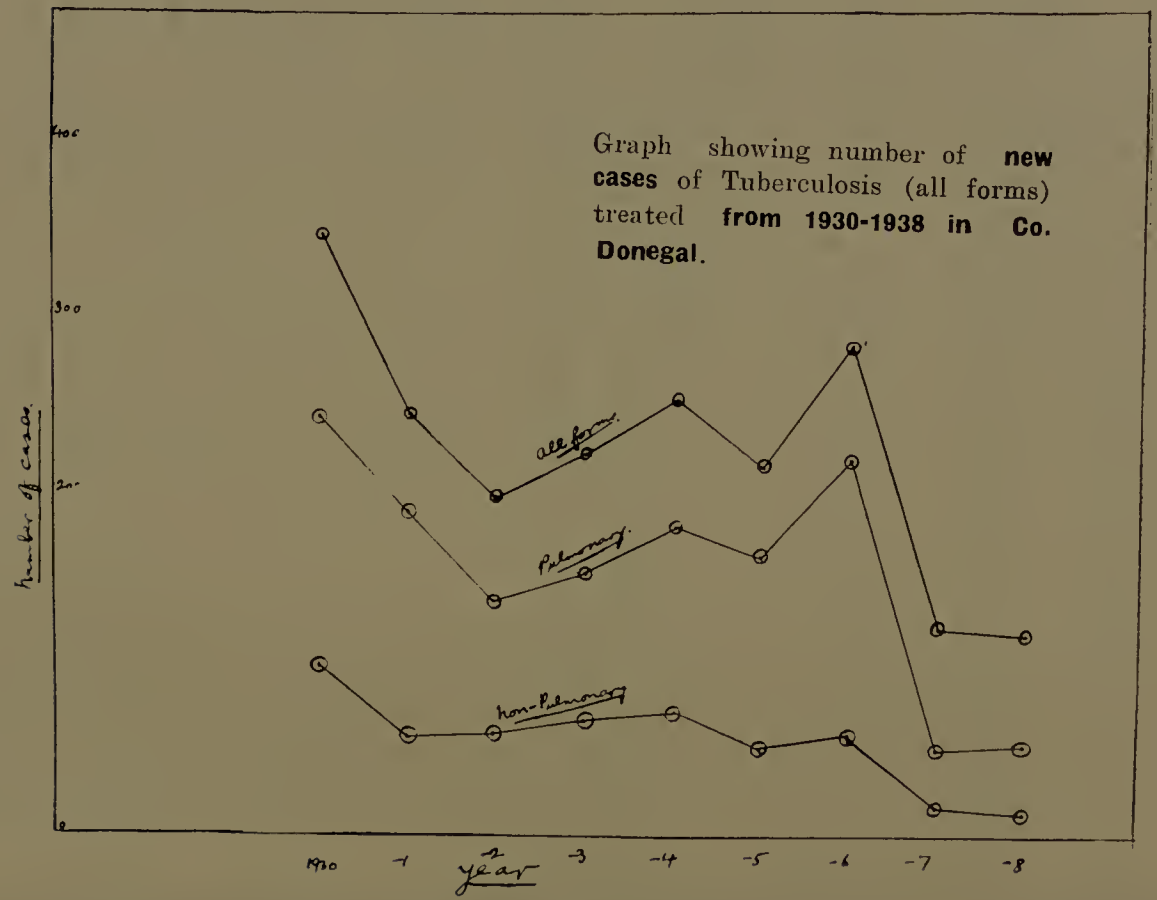
Graph showing number of new **adult** cases treated for pulmonary **tuberculosis from 1930-1938 in** Co. Donegal.



Graph showing the total number of **cases** treated for Tuberculosis (all forms) from 1930-1938 in Co. Donegal.



Graph showing number of **deaths** from Tuberculosis (all forms) **from 1930-1938 in Co. Donegal.**


Graph showing number of new cases of Tuberculosis (all forms) treated from 1930-1938 in Co. Donegal.
400
300
200
0
Number of cases
all forms
Pulmonary
non-Pulmonary
1930
-1
-2
-3
-4
-5
-6
-7
-8
Year

TUBERCULOSIS MORTALITY PER 100,000 OF POPULATION.

	1906	1934	Reduction per cent.
Northern Ireland	300	113	62.5
Eire	255	118	53.7
France	222	128	42.3
Germany	187	72	61.5
U.S.A.	180	56	69.0
Holland	178	54	69.6
Italy	166	92	44.6
England	165	76	54.0
Denmark	164	58	64.6

The above table is of interest as showing the comparative rate of decline in tuberculosis mortality (all forms) in the Countries and States listed.

Domiciliary Visits.

There are thirty district nurses in the County, and they all visit the homes of patients who are too ill to attend at the local clinics.

Children presenting suspicious signs at School Medical Inspection are likewise invited to attend at the clinics from time to time, and are kept under fairly constant surveillance by the District Nursing Staff.

The total of visits paid by them during the year was divided as follows between the thirty nursing districts :

Annagry	...	177
Ardara	...	316
Arranmore	...	441
Ballybofey and Stranorlar	...	409

Ballyshannon	...	562
Bruckless	...	299
Buncrana	...	320
Bundoran	...	535
Carndonagh	...	307
Carrigart	...	233
Clonmany	...	146
Convoy	...	108
Derrybeg	...	88
Donegal	...	178
Doochary	...	294
Drumholm	...	447
Dunfanaghy	...	297
Dungloe No. 1.	...	522
Fahan and Inch	...	132
Fanad No. 1.	...	72
Fanad No. 2.	...	100
Frosses	...	64
Glencolumbkille	...	231
Gortahork	...	135
Kilcar	...	150
Letterkenny	...	287
Lifford, Clonleigh and Castlefin	...	338
Moville	...	321
Ramelton	...	152
Rathmullan	...	308

Institutional Treatment.

For pulmonary cases requiring skilled institutional treatment Peamount Sanatorium, Dublin, reserves forty beds for County Donegal. Beds are also available in the local hospitals at Donegal (24), Glenties (28) and Carndonagh (20) for more advanced cases. For non-pulmonary cases, there are eighteen beds available at Lifford County Hospital, and such beds as may be required in Dr. Steeven's Hospital, Dublin; St. Mary's Open Air Hospital, Finglas, Co. Dublin (children) ; St. Joseph's Open Air Hospital, Coole, Co. Westmeath; St. Anne's Hospital Northbrook Road, Dublin (Lupus, etc), Linden Convalescent Home, Blackrock, Dublin.

Open-Air Schools (Residential) :—St. Mary's and St. Joseph's (non-pulmonary) ; Peamount (pulmonary).

As alreaiy mentioned, x-ray facilities are available in Letterkenny and Ballyshannon, serving the two halves of the County.

On the whole, therefore, the people of County Donegal are provided with moderately effective tuberculosis services. The fact that the centres for sanatorium treatment proper are located in Dublin for the most part is a certain deterrent to some of those requiring treatment. Quite often patients or their parents are unwilling to go for possibly a prolonged period to a hospital situated some 150 or more miles from their homes. Again while reasonable bed accommodation is available for advanced cases in local hospitals, many patients refuse to stay there for any length of time, as they feel that such hospitals are not really equipped for tuberculosis treatment, and they often insist on returning to their homes. Quite frequently these patients are in an acutely infective condition, and are inevitably bound to be a source of infection when they return to the wretched conditions of overcrowding prevailing in a large majority of their homes.

Furthermore a certain small percentage of cases refuse to go for treatment of any kind, despite the fact of their being in a highly infective condition. No reasonable arguments seem to be of avail in these cases, and one often wishes that the power of compulsory removal to hospital available for the acute infections diseases could be insisted on for these unfortunate people. In quite a number of cases they come from large families living under very overcrowded conditions, and the contacts of " open " cases such as these have very little chance of escaping infection.

The public are still ignorant to a large extent of the manner in which this disease is contracted. They seem to cling desperately to the belief, in spite of parent evidence to the contrary, that it can arise from getting a cold, quite apart from infection by the Bacillus

tuberculosis, and that in such cases, no special treatment is required. It is obvious that in this field of public health work, as in so many others, education of the public by unremitting propaganda is a necessary prerequisite to further advance in preventive treatment.

Far too many cases, furthermore, are brought to our notice in an advanced stage of the disease, when little can be done for the infective individual patient himself, apart from removing him from contact with healthy members of his household. In his report on the state of the public health for 1936 Sir Arthur McNalty, Chief Medical Officer of the Ministry of Health for England, comments as follows on the question of early diagnosis :

"The onset of pulmonary tuberculosis is usually insidious, and its progress over long periods may not be marked by acute illness. It is this insidious character of the disease which causes sufferers to refrain from seeking medical advice in the earlier stages, and renders the task of treating the patient and preventing the spread of disease to others so difficult. The primary need to-day is to convince individuals who are suffering from persistent lassitude, loss of weight, cough, etc., to seek medical advice. General practitioners, who form the front line of the tuberculosis service, should never regard such apparently minor departures from health lightly. Every practitioner in the country is in a position to obtain the assistance of a tuberculosis officer in investigating the nature of the trouble in such cases. Tuberculosis officers desire opportunities of investigating this very class of case, for it is among these patients that cases of pulmonary tuberculosis will be found in a stage when recovery is most probable. If a patient has any sputum, unless sputum is clearly the result of some definite morbid condition—for example lobar pneumonia—the suspicion of the possibility that it may be due to pulmonary tuberculosis should always be taken into account, and the sputum should be examined for tubercle bacilli. The sputum of chronic bronchitis should always be regarded with suspicion, and an examination for tubercle bacilli be made. If the sputum is blood-stained the need for examination is more urgent, not only in the interests of the patient, but, as shown by the case quoted (not here reported), for the safeguarding of the practitioner himself. Every practitioner can secure an examination for tubercle bacilli of sputum from any of his patients free of cost through the local tuberculosis scheme. A negative report upon a single specimen of sputum does not prove that the sputum is free from tubercle bacilli, but only that they were not discovered in that particular specimen. Further specimens should be examined. Even a series of negative examinations does not prove that the patient is not suffering from pulmonary tuberculosis, for the disease may be in an early stage, and bacilli may not have begun to be excreted. Further investigations or consultations upon suspicious but "sputum-negative" patients are more than ordinarily necessary, for it is in this class that tuberculous patients with the best prospect of recovery occur."

TIONNSCNAMH i gCOIR LEIGHEAS NA hEITINNE.
(Scheme for the Treatment of Tuberculosis).
DONEGAL COUNTY.

RETURN OF NUMBER OF PATIENTS TREATED UNDER THE COUNTY TUBERCULOSIS SCHEME DURING THE YEAR ENDED 31st DECEMBER, 1938.

	Pulmonary Tuberculosis			Non-Pulmonary Tuberculosis			Total
	Children under 15 Years	Other Persons		Children under 15 years	Other Persons		
		Males	Females		Males	Females	
1. Insured Patients.							
(i) No. remaining under treatment :-							
(a) On 1st January, 1938	—	30	26	—	3	3	62
(b) On 31st December 1938	—	22	19	—	3	2	46
(ii) No. of new patients treated during year 1938	—	3	6	—	1	—	10
(iii) No. of cases under observation at close of year 1938	—	1	1	—	—	—	2
II. Other Patients.							
(i) No. remaining under treatment:-							
(a) On 1st January, 1938	83	199	258	112	65	55	772
(b) On 31st December 1938	54	153	206	71	33	27	544
(ii) No. of new patients treated during year 1938	11	42	42	9	3	2	109
(iii) No. of cases under observation at close of year 1938	135	8	20	6	1	2	172

The accompanying table shows the admissions to and discharges from the various local and extern institutions during the year :—

NAME OF INSTITUTION	Admissions	Discharges or Deaths	No. remaining on 31/12/'38
Donegal District Hospital	67	63	16
Glenties District Hospital	39	35	11
Carndonagh District Hospital	36	25	14
Letterkenny District Hospital	—	—	—
Lifford District Hospital	8	12	—
Cappagh Open-Air Hospital	7	4	7
Coole Open-Air Hospital	—	2	5
Peamount Sanatorium	22	31	30
Dr. Steevens' Hospital	4	3	5
Newcastle Sanatorium	1	1	1
Linden Convalescent Home	—	1	—
Richmond Hospital	1	—	1
TOTAL	185	187	90

At a recent lecture in Liverpool, Dr. Denis Pickering pointed out that figures from authoritative sources showed that the ratio of deaths to reported cases of pulmonary tuberculosis had not fallen appreciably as the result of the introduction of collapse therapy of the lung. (This has been described as the only important therapeutic procedure in pulmonary tuberculosis introduced in recent years). This did not mean that collapse therapy had failed. It was because the vast majority of cases coming under treatment had already passed the early stages of disease. If cases could be placed under treatment in the very early stages the fall in the death-rate from pulmonary tuberculosis would be striking, and more serious surgical measures would probably be rarely necessary. A plea was made by Dr. Pickering for periodical X-ray examination in all cases of persistent coughs, recurrent colds or influenza, post-pneumonic conditions and unexplained debility. The possible antagonism of patients to such measures must be overcome by educating the public to recognise that pulmonary tuberculosis was in its early stages eminently curable.

NON-PULMONARY TUBERCULOSIS.

As it is now generally conceded that 70-80 per cent. of non-pulmonary tuberculosis in children is caused by the drinking of infected milk, the question of the prevention of this form of the disease naturally centres round the question of providing safe milk. The considered opinions of the medical profession as regards milk were concisely stated in the report drawn up by the Royal College of Physicians of England in 1934. This laid down that a daily ration of milk is important for the growth and health of children ; that the risk of tuberculosis and other diseases following the consumption of raw milk is considerable ; that such risks can be obviated by the use of milk submitted to low-temperature pasteurisation ; that such pasteurisation does not materially interfere with the nutritive value of the milk. As the College embraces members from all the leading branches of the profession, this may be taken as an authoritative opinion, seeing that the resolution embodying it was passed without dissent.

Objection to pasteurisation has been taken on the grounds that it lowers the nutritive value of the milk. As a result, however, of carefully controlled experiments in men and animals, it may be confidently stated that the only loss is in the vitamin content, and that is easily and efficaciously replaced in other foods.

MILK AND DAIRIES ACT, 1935.

This Act has been in operation since 1937, together with the Milk and Dairy Regulations, 1936. A certain amount of opposition to this measure has been experienced from the beginning, as farmers objected to the necessity of spending money on buildings which had been in use and established for years. However, the majority of dairy farmers now recognise the supreme importance of safeguarding the milk supply, and the objections have practically all been on the sole ground of expense. No milk contractor is now accepted by the Board of Health unless his cattle and equipment have been approved by one of the Board's Veterinary Inspectors. This, naturally, is a direct incentive to comply with the conditions of the Act, and it is found that more and more applications for registration are being received. It is therefore hoped shortly to have all milk dealers in the County registered under the above Act, and thus " to improve the methods of production and distribution of the milk supply intended for sale for human consumption."

The following table shows the details of premises approved, and not approved, up to December 31st., 1938, for the County Health District:

District	Veterinary Officer	No. of Applications	No. Registered	No. Refused Regn.
Donegal	F. McShane	49	23	12
Buncrana	R. Marner	69	26	23
Milford	L. McIlhargey	25	4	15
Letterkenny	P. McGlinchey	88	31	—
Glenties	T. A. McClintock	121	70	16
TOTAL		352	154	66

There have been 352 applications altogether, and of these 154 have been accepted for registration, 66 have been refused on the grounds of non-compliance with the standard, and the remainder are in course of reconstruction. As pointed out in my last Annual Report there were 112 accepted and 90 refused at the 11th. March, 1938, so that 42 further premises have been accepted for registration since that date.

With regard to the Urban Districts of Letterkenny, Buncrana, and Bundoran, the following table shows the state of affairs at December 31st., 1938.

URBAN DISTRICT	No. of Applications	No. Granted	No. Refused
Letterkenny	34	12	18
Buncrana	7	7	—
Bundoran	27	12	—
TOTAL	68	31	18

The most vital public health problem at present is the infection of milk by the Bacillus tuberculosis, for it is a definite source of a varying proportion of human tuberculosis of all types. The origin

in most cases is the infected udder and possibly the mammary tissue of the cow. A small proportion is due to contamination in the bucket from faeces, urine, etc. The present control of milk with reference to tuberculosis is by bulk sampling, routine herd inspection and treatment by heat. The first two aim at removal of the infected animal, the third ignores the source.

Students were taught for years that milk as produced by the cow was free from germs, and that, provided reasonable precautions were taken during milking and cooling, and also regarding its distribution, the end result would be a wholesome food fit for anyone to drink. Unfortunately much of this is untrue ; many " apparently " normal cows excrete tubercle and other bacilli, whilst others pass out, with their mammary secretions, streptococci and staphylococci. The problem is further complicated because the milkers themselves may infect the milk with sputum or by coughing ; and utensils may be rendered dangerous and potentially disease-producing by being washed in water contaminated with typhoid or other sewage bacteria.

MILK-BORNE DISEASES.

(1) " Diseases of Cattle transmitted to Man via the Udder " :- Tuberculosis (common), undulant fever (infrequent), streptococcal infections (infrequent), anthrax (rare), cowpox (rare), staphylococcal infections (rare), foot and mouth disease (extremely rare), actinomycosis (extremely rare), milk sickness (unknown in this Country).

(2) " Diseases of Man (milker) liable to infect milk " :— Tuberculosis (rare), scarlet fever (not infrequent), diphtheria (rare), septic sore throat (not uncommon), smallpox (extremely rare).

(3) " Infections of milk during production or transit " :— Bacillus coli infections (common), typhoid (occasional), salmonella or food poisoning infections (extremely rare).

CONTROL OF MILK BORNE DISEASE.

It has been pointed out that if local authorities were to vigorously enforce the existing regulations many epidemics of disease traceable to infected milk could be prevented. As pointed out by veterinary officers : " Even to-day there are large numbers of farmers who have no water available for cooling purposes, who do not wash their cows' udders, have no steam sterilising plant and whose premises are totally unfit for milk production purposes. Further many such farms have never had any veterinary inspection for " years," and in many instances the local sanitary officials have been equally conspicuous by their absence.

It is hoped that the provisions of the "Milk and Dairies Act, 1935" will do something to improve the quality of the milk now produced in Eire. (See last year's report for summary of the Act). Some of the main articles may be shortly stated as follows :

The floor of every cowshed shall be constructed of durable, non-absorbent and impervious material ;
it shall not contain any crevice or cavity in which liquid matter can lodge and remain ;
it shall be so sloped as to ensure that all liquid matter falling thereon will flow into channels as follows ;
it shall be provided with channels so constructed, placed and sloped as to receive all such liquid matter and convey it outside the cowshed for disposal in accordance with these regulations.

"Every cowshed, milk store or milk shop shall be adequately lighted and provided with suitable windows so as to enable the air to be kept fresh and wholesome.

"The use of dirty vessels and appliances in a dairy is a frequent source of contamination of milk.

"The following precautions shall have effect in relation to the milking of cows, that is to say :

(a) The clothing and person of the milker shall be clean

(b) The hands and forearms of the milker shall be washed with potable water and dried immediately before the milking is begun and shall be kept clean and (so far as is reasonably possible) dry at all times during the milking.

(c) The milker shall wear during the milking a clean apron or overall of linen, cotton or other washable material.

(d) The milking shall be carried out in a light sufficiently good to enable the milker to distinguish dirt on the udder or teats of the cow, or abnormalities in the colour of the milk.

(e) The milking stool shall be clean.

(f) Milking in a cowshed shall not be begun within half an hour after any dry bedding or other matter has been moved in such cowshed so as to raise dust.

(g) Immediately before the milking is begun all dirt on or around the tail, quarters, flanks, udder and teats of the cow shall be removed, the said parts of the cow shall be washed with potable water, and the udder and teats shall then be wiped with a clean cloth damped with potable water.

(h) The first teatful of milk from every teat shall not be allowed to pass into the milking pail or other vessel with the remainder of the milk and such first teatful shall be collected in a special vessel and shall not be sold.

In his presidential address to the section of Veterinary Hygiene of the Health Congress at Portsmouth in July, 1938, Professor F. C. Minett took as his theme the eradication of bovine tuberculosis. The following is a brief summary of some of the more important points in his address :

Six-monthly testing of cattle is useful in protecting the milk supply and keeping down disease, but is not always sufficient in eradication work because any tuberculous animals which may for some reason escape at any one test, are given time to infect some of their companions before the next test is due.

The samples of milk most likely to show contamination with tubercle bacilli were derived from a county where the herds are comparatively large and where there is a tendency for cows to spend rather much of their time in sheds.

The incidence of tuberculosis in cattle largely depended on (a) the age to which it was the common practice to keep cows, and (b) whether the calves were home-bred or purchased from dairying districts. Where the practice was to keep cows a long time or to purchase calves, the incidence tended to be higher. Cattle of the Hereford breed are commonly believed to be remarkably free from tuberculosis, largely of course owing to their open-air life.

Experiments showed that infected pastures are unlikely to be a dangerous source of infection to clean cattle. While no doubt it would be a wise precaution to leave pastures vacant for, say, three months—or, if possible, longer—after they have been vacated by tuberculous cattle, it may reasonably be concluded that the chances of clean animals becoming infected from pasture are very small compared with those arising from contact between diseased and healthy animals, particularly when they are confined in buildings.

According to Nieberle, a distinguished German veterinary pathologist, mammary and uterine tuberculosis together can account for as much as 60 per cent. of all tuberculous infection in young calves.

The ease with which calves become infected by drinking tuberculous milk is, of course, well known, but owners probably do not realise its full importance. Nor probably is it realised that by drinking infected milk, calves often acquire an extensive pulmonary form of tuberculosis.

Pasteurised milk is as effective as raw milk in its nutritive properties for calves, while it has the clear advantage of being safe.

Mr. W. P. Blount, F.R.C.V.S., Chief Veterinary Officer East Sussex County Council, is an uncompromising opponent of the necessity for pasteurisation. In lieu thereof, he advocates the following measures:

"(1) Two main grades of raw milk to be marketed: (a) for direct oral consumption; (b) for cooking purposes. (2) No such milks sold to the public to be of a lower standard than that at present employed respecting accredited herds. (3) All milk produced and not reaching this standard of cleanliness to be sold as liquid milk only if it undergoes some process rendering tubercle and other contaminating bacilli harmless. (4) **All** dairy herds to be inspected by veterinary surgeons at least quarterly. (5) All premises to be approved. (6) All dairy farmers to provide steam sterilisation. (7) All farms to be equipped with water basins with automatic supply (one in, or near, the actual milking shed), fitted with hot and cold water. (8) All outbreaks of mastitis or other disease likely to convey infection to man by milk to be notified and treated by a qualified veterinary surgeon. (9) No unqualified "animal quack" to be allowed to vaccinate or otherwise attend the herd. (10) All milkers to wear clean overalls and cap. (11) Farmers to be paid 2/6 for the reporting of cattle under the Tuberculosis Order. (12) Compensation under the Tuberculosis Order to be full and adequate. (13) Compensation to be paid to owners whose milk supply from any cow is stopped pending the result of a biological test. (14) All cows ejecting sputum to be reported under the Tuberculosis Order."

Additional Regulations ("Advocated by Mr. Blount").

(a) "Milk for consumption purposes":—(1) All milkers and others concerned with the handling of it before bottling to have a medical examination (panel) monthly. (2) Every such person to wear a suitable gauze mouth and nose mask during milking operations. (3) All milk (other than T.T.) to be subjected to biological tests; quarterly herd (bulk) samples to be taken by milk inspectors. Veterinary inspectors also to take samples from **all** individual cows showing udder induration and/or clinical enlargement of the supramammary lymphatic glands. (4) No **wet** milking to be allowed. Those unable to milk dry-handed to use a suitable antiseptic milking salve for lubrication purposes. (5) The bacterial count to be below 25,000 per c.c., and no B. coli in 1/10 c.c. (6) The butterfat to be at least $3\frac{1}{2}$ per cent., additional payments to be made up to $5\frac{1}{2}$ per cent. (7) No cow with only two healthy quarters to be included in the herd. (8) All water supplies to be regularly inspected and tested by the Medical Officer of Health Inspectors quarterly. (9) The producer of T.T. milk to be suitably compensated. (10) No cow to enter the herd until passed fit by a veterinary inspector. Following the above suggestions control would be threefold: Cows in or entering

the herd would be regularly "vetted," contamination from outside sources would be negligible, and the chances of tubercle contamination reduced to a minimum."

FREE MILK SUPPLY SCHEME.

Under the County Health District Free Milk Scheme, milk was supplied to 1,640 necessitous children under five years of age, during the year ending 31st December, 1938. The cost was £2,831 7s 1d.

Owing to the scarcity of registered dairymen in a number of districts, it was not possible to arrange for the supply of liquid milk in such areas, and dried milk powder was substituted. The recipients appear to regard the powder as satisfactory, and there has been no report of abuse in its distribution or use.

The following instructions were issued to parents or guardians of children for whom milk powder was supplied :—

Donegal County Board of Health and Public Assistance.

ISSUE OF FULL CREAM MILK POWDER.

Advice to Parents.—Milk is a most valuable food for children, but particularly for young children under five years, for whom in this case it is intended. Owing to the scarcity of fresh milk in your area, its place will be taken for the time being by Full Cream Milk Powder. This Powder is easily digested and is equal in purity to the highest grade milk. On this account it can be safely given to young infants, when prepared according to the directions, but **on no account should the natural method of feeding infants, by breast feeding, be interfered with.** Weaning should not be begun, if possible, until the 9th or 10th month. You will find directions below for the preparation of suitable dilutions for young infants. Water which has been boiled and allowed to cool should be used.

Special Notes.

1. Keep the Full Cream Milk Powder in a dry place and away from dust—when suitably stored the powder will remain fresh for a long period.

2. Only the quantity of milk or mixture required should be prepared on each occasion.

3. Especially in the case of infants, it is essential to give a little fresh fruit juice at least once a day to replace an element which is lacking in the milk powder. Almost any fruit or (raw) vegetable juice will do, but orange juice is the most

convenient. Half to one teaspoonful of this, sweetened a little and diluted with an equal quantity of boiled water, should be given to a young infant once or twice a day, preferably an hour before a feed.

4. Less essential, but valuable in the case of delicate children, or children disposed to ailments of the chest, is a little pure cod liver oil or emulsion. Start **one drop** twice a day in the case of young infants. Give in the middle of a feed and **gradually** increase to a quarter of a teaspoonful.

FULL CREAM MILK POWDER.

Directions for Preparing.

Mix required quantity of Dried Milk into a smooth cream with a little hot water. Add remainder hot water and stir thoroughly.

For Invalids and Nursing Mothers. Three parts fill a breakfast cup with dried milk. Prepare as directed, and pour from veessl until frothy.

For General Use. Milk Puddings, etc. To reconstitute into Liquid Milk, add 3 ozs. to a pint of hot water, adding same gradually and mixing well.

For Coffee and Cocoa. Mix Dried Milk with Coffee or Cocoa, add hot water and stir well.

For Tea. Place Dried Milk in a cup, pour on sufficient Tea to make a paste, add remainder of Tea, stirring thoroughly.

INFANT FEEDING TABLE

Age of Baby	Level Teaspoonful of Full Cream Milk Powder	Teaspoonfuls of Hot Water
1st Week	1	2
2nd ,, ...	1½	3
3rd ,, ...	2	4
4th ,, ...	2½	5
2nd Month	3	6
3rd ,, ...	3½	7
4th ,, ...	4	8
5th ,, ...	5	10
6th & 7th Month	6	12
8th & 9th ,, ...	7	14

These dilutions are not intended to give the equivalent of Full Cream Milk, being modified to infants requirements.

The Baby should be fed every three hours during the day.

The above Table is merely a guide for normal infants, and should be varied according to medical advice.

Above issued for information of persons using milk powders under scheme for supply of free milk.
1st May, 1938.

MATERNITY AND CHILD WELFARE.

The accompanying table sets out the various activities comprised under the above heading :—

MATERNITY AND CHILD WELFARE ACTIVITIES, 1938.

DISTRICT	Expectant and Nursing Mothers.	Visits Paid	Infants under 1 year.	Visits Paid	Children under 5 years	Visits Paid
Annagry	210	1,056	58	896	168	1,193
Ardara	144	1,092	65	353	162	1,665
Arranmore	35	909	30	560	99	928
Ballybofey and Stranorlar	84	1,210	62	1,095	189	1,447
Ballyshannon	57	938	45	431	202	1,135
Bruckless	31	704	28	332	83	1,356
Buncrana	123	480	73	502	192	1,118
Bundoran	30	639	24	624	106	3,945
Carndonagh	115	851	80	880	157	731
Carrigart	72	853	42	658	146	1,609
Clonmany	75	985	70	975	195	1,180
Convoy	66	516	22	678	120	1,151
Derrybeg	48	318	40	254	124	1,234
Donegal	120	979	97	572	196	2,007
Doochary	18	206	17	204	77	308
Drumholm	103	933	67	1,169	87	884
Dunfanaghy	60	1,143	31	567	119	1,705
Dungloe	118	835	84	440	249	1,941
Fahan and Inch	76	359	29	462	155	1,413
Fanad No. 1	40	245	38	266	138	890
Fanad No. 2	45	253	35	217	125	794
Frosses	55	360	45	270	176	2,400
Glencolumbkille	21	300	17	387	62	756
Gortahork and Falcarragh	160	1,800	67	1,307	180	2,124
Kilcar	971	1,200	35	639	168	1,177
Letterkenny	164	1,476	157	1,413	369	2,214
Lifford, Clonleigh and Castlefin	130	1,789	117	1,009	294	3,014
Moville	36	390	86	1,000	165	2,337
Ramelton	482	690	60	670	152	1,358
Rathmullan and Glenvar	75	1,086	48	955	118	2,086

The following is a resume of the work under this scheme performed by Miss Casey, Superintendent Public Health Nurse :—

Number of Expectant and Nursing Mothers visited	145
Number of Visits paid during the year	215
Number of Infants under 1 year visited	167
Number of Visits paid during the year	240
Number of Children under 5 years visited....	296
Number of Visits paid during the year	486

INFANTS' DEATHS (UNDER ONE YEAR) IN DISTRICTS SERVED BY JUBILEE AND DUDLEY NURSES AND IN COUNTY HOME.

Number of Deaths	37

CAUSES OF DEATH :—

Bronchitis	3
Bronchial Pneumonia	6
Congenital Heart Disease	1
Convulsions	2
Infantile Diarrhoea	1
Marasmus (wasting)	3
Premature and weakly from birth	13
Whooping Cough	5
Cause Unknown	3

INFANTS' DEATHS (OVER ONE YEAR).

Number of Deaths of Infants over one year and under five years	20

CAUSES OF DEATH :—

Bronchial Pneumonia	9

Chorea	1
Diphtheria	1
Infantile Paralysis	1
Hernia (post operation)	1
Meningitis	3
Whooping Cough	3
Cause unknown	1

SUPERVISION OF MIDWIVES.

Miss Casey reports as follows :—

"The work of the Midwives on the whole continues to give satisfaction, but owing to long distances it is not always possible to visit patients as often as is necessary during the lying-in period. A number of the Dispensary Midwives in the County have not, so far, availed themselves of the opportunity of attending the post-graduate course. I hope that arrangements will be made whereby as many as possible of the Midwives who have not so far attended the course will do so in the coming year.

Handywomen are still practising in the Cross Roads (Falcarragh) and Dunfanaghy areas. The cases reported were investigated and the handywomen cautioned.

As all births at which qualified persons attend are not notified to the County Medical Officer of Health, it is extremely difficult to obtain definite evidence regarding the activities of handywomen"

The following is a summary of the various notifications received during the year from the Midwives practising in the County :—

1.	Notifications of Intention to Practise	89
2.	Emergencies for which Medical Aid was summoned :—	
	Abnormal Presentations	27
	Abortions (Threatened and Complete)	8
	Albuminuria	4
	Ante-partum Haemorraghe	8
	Delayed Labour and Uterine Inertia	75

	Illness of Baby	4
	Miscarriage	3
	Post-partum Haemorrhage	6
	Premature Birth	5
	Puerperal Pyrexia	9
	Retained and Adherent Placenta	12
	Rupture of Perineum	16
	Other Emergencies	4
3.	Notifications of Still Births	23
4.	Notifications of Deaths	7
5.	Notifications of Artificial Feeding	7
6.	Notifications of Having Laid Out Dead Bodies	6
7.	Notifications of Liability to be a Source of Infection	5

156 Visits of Inspection were paid by Miss Casey to Midwives during the year.

NOTIFICATION OF BIRTHS.

The total number of births notified to this Department during 1938 was 1,896. The total number of registered births for Donegal for this year was 2,536, so that the notified cases represent 74.7 per cent. of the total births in the County. The percentage figure for the previous year (1937) was 74.

WELFARE OF THE BLIND.

The County Scheme administered by the Donegal Board of Health and Public Assistance is detailed in previous annual reports. Briefly, it is as follows -:

1. A register of blind persons in the County is kept up-to-date.

2. Arrangements are made by the Board for the following :—

(a) The education or industrial training of suitable blind persons between the ages of five and thirty years.

(b) The employment in Workshops for the Blind of blind persons suitable for such employment, their maintenance in a Hostel, and the augmentation of their wages.

(c) The maintenance, in Homes, of blind persons, who, owing to age or infirmity, are incapable of work.

3. The Board may, in the case of unemployable and necessitous blind persons ineligible for education or industrial training under the Scheme, and living in their own homes, or in lodgings, grant assistance to such persons in accordance with the following scale :—

	Per Week.
(a) Blind persons over 15 years and under 30 years of age	10/-
(b) Blind persons 30 years of age and upwards with pension	4/-
(c) Married man under 30 years of age with wife dependent on him	15/-
(d) Married man 30 years of age and upwards with wife dependent on him .... with pension	8/-
(e) Additional allowance for each child	2/6

The institutions approved by the Minister under the provisions of this Scheme are :—

NAME OF INSTITUTION	Class of Blind Persons Received
1. St. Mary's Institution for Female Blind, Merrion, County Dublin.	Females; also boys up to 7 years of age.
2. St. Joseph's Asylum for Male Blind, Drumcondra, Dublin.	Males.
3. Richmond National Institution for Industrious Blind, 41 Upper O'Connell Street, Dublin.	Males.
4. Cork County and City Asylum for the Blind, Infirmary Road, Cork.	Males and Females.

At the end of the year, five persons were receiving institutional benefit. It was decided by the Board, to forward, as from the 1st January, 1939, monthly paying orders direct to persons in receipt of cash allowances in their homes, and who had previously obtained this benefit through the hands of the Assistance Officers, as Home Assistance. The number of such persons at the end of the year was 24.

SALE OF FOOD AND DRUGS ACTS.

The practical administration of this important legislation is entrusted to the Garda Siochana, who carry out their task with their accustomed courtesy and efficiency. I wish to express my thanks to the Chief Superintendent for the County who has kindly supplied particulars of the work done in regard to the taking of samples and analysis of same :—

RETURN OF SAMPLES ANALYSED DURING THE YEAR ENDING 31st DECEMBER, 1938.

NATURE OF SAMPLE	No. of Samples Taken	No. certified to be adulterated	No. of Prosecutions	No. of Convictions
Whole Milk	331	16	16	16
Buttermilk	23	—	—	—
Butter	107	4	4	4
Cheese	29	—	—	—
Margarine	79	1	1	—
Tea	5	—	—	—
Jam	13	—	—	—
Cocoa	4	—	—	—
Coffee	2	—	—	—
Sugar	7	—	—	—
Cornflower	4	—	—	—
Lard	3	—	—	—
Condensed Milk	1	—	—	—
Flour	1	—	—	—
Rice	5	—	—	—
Tapioca	1	—	—	—
Pearl Barley	1	—	—	—
Lemon Curd	1	—	—	—
Cream of Tartar	2	—	—	—
Mincemeat	1	—	—	—
Suet	1	—	—	—
Confectionery	1	—	—	—
Bread	1	—	—	—
Sauce	1	—	—	—
Farola	1	—	—	—
Ice Cream	2	—	—	—
Pepper	1	—	—	—
Tinned Beef	1	—	—	—
Vinegar	7	—	—	—
Olive Oil	24	—	—	—
Cod Liver Oil	4	—	—	—
Camphor Oil	6	—	—	—
Castor Oil	5	—	—	—
Minerals (non-intoxicating Liquor)	2	—	—	—
Intoxicating Liquor	114	1	1	1
Liquid Paraffin (medicine)	1	—	—	—
TOTAL	792	22	22	21

The following members of the Garda Siochana acted as Food and Drugs Inspectors during the year ended 31st December, 1938. :—

Garda James Meegan, Letterkenny.
" L. Connolly, Lifford.
" P. J. Garvin, Newtowncunningham.
" T. Maguire, Raphoe.
" J. H. Flanagan, Buncrana.
" M. Walsh, Moville.
" P. Harvey, Muff.
" P. McGurk, Carndonagh.
" B. Garvey, Ballyshannon.
" J. Dunne, Ballybofey.
" J. P. Trainor, Pettigo.
" A. Sarsfield, Dungloe.
" P. M. O'Neill, Clogher.
" W. P. Arnold, Bunbeg.
" J. Manning, Killybegs.
" M. Keaney, Mountcharles.
" D. Brennan, Carrick.
" E Gallagher, Milford.
" R. T. Burke, Creeslough.
" M. Burke, Falcarragh.

PART II.

ANNUAL REPORT

OF THE

County Medical Officer of Health
County Donegal

ON THE

COUNTY SCHOOL MEDICAL SERVICE

YEAR 1938

Annual Report on the County School Medical Service

YEAR 1938

Total number of Schools in the County	387	1937 figures, supplied by Department of Education.
Total School Population	23,159	

Number of Schools examined in 1938	172
Number of School Population examined in 1938	4,481

The total number of children examined this year is 4,481 as compared with 6,508 last year. The reason for this rather marked decrease is that several extensive campaigns of anti-diphtheria immunisation were carried out. As we had again reverted to the two-injection method of immunisation from the beginning of the year a good deal more time was taken up in this work than in the preceding year.

As mentioned in last year's report all children presenting themselves for examination were inspected in each school. The total number inspected was 4,481 out of a roll total of 8,937 notified, that is to say 50 per cent.. As already remarked in previous reports, this average figure is not of great value, as the numbers refusing examination vary to a marked degree from district to district. In some areas 90 to 100 per cent. of the pupils come for inspection, while in others there may be only 20 to 50 per cent. in attendance. This shows that there is need for much propaganda in some districts. Quite often it is a question merely of lack of enthusiasm, and possibly some illogical prejudice on the part of the parents. It is, likewise, an unfortunate fact that, quite frequently, it is the children who require supervision most who stay at home on the day of the school medical inspection.

ATTENDANCE OF PARENTS.

Sixty-three per cent. of parents attended personally at the school inspections. This is a good improvement on last year's figure (51 per cent.) and quite a satisfactory attendance. Parents are encouraged to come with their children as it gives them a much better idea of what is being done at the school examination and enables the doctor to establish personal contact, and give suitable advice in a manner more readily understood than through the medium of a printed form.

COMMENTS ON TABLES OF DEFECTS.

The percentage numbers of children showing unsatisfactory conditions in matters of Clothing, Footgear and Cleanliness of Head and Body, are shown in Table B. It will be noted that the figures for 1938 (6 per cent., 3.2 per cent., 12.7 per cent., 15 per cent.) are well above those for 1937 (3.6 per cent., 2.2 per cent., 9.0 per cent., 12.5 per cent.). Last year the percentages in all cases were well below those of 1936, and the following comment was made : "It will be interesting to see at what level these figures remain in the future, in view of the marked improvement in some of them, depending, as they do, largely on economic factors (Clothing and Footgear). It is further to be noted that there have been a good many changes in the Public Health Staff since last year, and the personal factor has, necessarily, a good deal of bearing on the judgment of matters relating to satisfactory clothing and footgear. For this reason, the comparison of this year's with last year's figures is not necessarily as reliable as might appear at first sight." A further cause of discrepancy in the figures arises from the fact that each succeeding year represents a new set of districts as compared with the preceding year, so that one is not really comparing the same children nor the same schools in any two consecutive years. Just as in the matter of vaccination, districts vary a good deal in the economic level and standard of cleanliness of their inhabitants, so the figures given above are nearly bound to rise and fall in different years. The fact that 12.7 per cent. of those examined in 1938 had lice in their hair (as compared with 9.0 per cent. in 1937) shows that unremitting propaganda is still required in order to persuade some parents of their duties in this regard. The great pity of it is that one child harbouring these unwelcome parasites can transfer them so readily to cleaner children.

Quite frequently one finds that dirty, neglected-looking children have no mother to look after them. So much is this the rule that when one is confronted by such a child, one's hand automatically reaches for the card to see if the mother is alive.

The child almost invariably reflects the mother's or guardian's nabits, and when one sees a dirty, unkempt-looking parent, one looks for a similar condition in the child—and seldom is one disappointed.

SCHOOL MEALS.

Under the School Meals (Gaeltacht) Act, 1930, hot mid-day meals are provided for Schools in Gaeltacht areas of the County. These meals are very much appreciated, and consist of bread and butter plus milk, cocoa or tea, according to the facilities available in any particular district. Milk produced under proper conditions is not available in some districts, otherwise milk would be the dietary of choice in every case.

During the year 1938, £3,093 13s 11d was spent in providing food for the pupils of 116 schools in the Gaeltacht with a population of 5,496 children, the average allowance per child being 11s 6d. The cost of administration of the Scheme was £80 13s 2d.

Urban Districts.

School meals are also provided by the Urban District Council in Letterkenny and in Bundoran, and by the Town Commissioners (whose affairs are administered by a special Commissioner) in Ballyshannon.

Letterkenny.

The scheme is administered and supervised by the School Meals Committe, consisting of School Managers, Principal Teachers, and members of the Urban Council. Meals are served by contractors for such service for periods of six months, the food being supplied directly by the Council to the contractors. The following schools are those served by the scheme :—

St. Eunan's N.S.
St. Columba's N.S.
Barkhall N.S.
Parochial Hall N.S.

The meal provided consists of a half-pint of milk and one 4-oz. bun.

Bundoran.

The scheme is administered by a committee appointed by the Council. This committee includes Brothers of the St. Vincent de Paul Conference, the School Manager, and members

of the Legion of Mary. A cook is employed and is supervised by the members. Bundoran Convent National School is the one served by the scheme, and the meal supplied is as follows:

(a) On Mondays, Wednesdays, and Fridays : Bread, butter and warm new milk.

(b) On Tuesdays and Thursdays : Bread, butter and warm cocoa.

Ballyshannon.

The scheme is in operation in the Convent Schools and in the De la Salle Brothers' (St. Joseph's) Schools throughout the entire year, and the average number of necessitous children in receipt of meals is fifty.

The food supplied is 4 ozs. bread and margarine and half a pint of pure new milk to each recipient. Pure milk is now supplied in preference to cocoa which had been provided for the first few years during which the scheme was in operation. The milk is heated except during the warmer months.

The meals are prepared and distributed in the Convent Schools by the Sisters of Mercy, and in the Boys' School by the local troop of Catholic Boy Scouts under the supervision of the Principal Teacher. An oil cooker was supplied for cooking purposes in the Brothers' School; in the Convent they had already a coal range in their Cookery room. Utensils, etc., were provided in both schools.

NUTRITION.

On reference to Table C it will be seen that there were 534 malnourished children out of a total of 4,481 examined, i.e. 11.9 per cent. This is a slight increase on last year's figure (10.9 per cent.). Of the above 534 cases of malnutrition, there were only 67 of marked degree requiring treatment. The remaining 467 were classed as moderately undernourished or for observation. Thus the actual percentage figure for severe malnutrition is 1.5 per cent., practically the same as last year's figure (1.6 per cent.). As already remarked the majority of the children classified as undernourished are kept under observation for some months and cod liver oil and malt are generally prescribed. The value of clean milk as an addition to the child's dietary is always stressed in the talks to parents at the School examination. They are advised to boil the milk in all cases.

On the subject of nutrition it is of interest to note that the "Children's Minimum Council" of England, whose purpose is to ensure that no child shall by reason of the poverty of its parents be deprived of at least the minimum of food and other requirements necessary for full health, has recently published two pamphlets which make rather disturbing reading. One of the pamphlets is entitled "Malnutrition Among School-children" and the other "School Feeding in England and Wales." (Published at the Council's Office : 72, Horseferry Road, London, S.W.I.).

Of the school population examined in England and Wales in 1936, the percentage of severe malnutrition was 0.7 per cent., and of moderate subnutrition 10.5 per cent. The writer of the pamphlets points out that wherever a more thorough and detailed examination of school children has been made possible, the results show a much higher percentage of defect. The detection of malnutrition in its early stages is extraordinarily difficult by ordinary clinical examination. Sir Robert McCarrison has pointed out that malnutrition is not of itself a state of ill-health so much as the cause of many states of ill-health. Prolonged sub-clinical malnutrition lowers the resistance of the body to infection and greatly impairs the power of recovery from disease, though it may not register any symptoms. The writer of the pamphlets points out that the difficulty with these nutrition surveys is that many children suffering from malnutrition may be missed in the first selection of cases for further examination. This selection is made in the classrooms and is based largely on facial expression, the least reliable of all physical signs of undernutrition.

Miss Green, the writer of the pamphlets, brings forward evidence to suggest that the number of children who suffer from dietary deficiencies is much larger than the 11.2 per cent. of sub-normals in the official assessment. She also argues from her statistics that, unless they are provided with school meals, children of unemployed families are very probably undernourished, as an adequate diet cannot be purchased on the domestic budget, no matter how carefully planned. She believes that some fifteen per cent. of school children are not only deprived of a sufficient quantity of foodstuffs, but are also going short of calories or bulk food, and that probably another twenty per cent., while they have a diet ample in amount, are not getting the first-class proteins, vitamins and mineral salts necessary for growth, good health and resistance to disease. By simple dietary means the health of the school child could be

raised to above its present level but to bring this about a start will have to be made with the mother and the pre-school child.

The number of school children who receive free meals or free milk, or both, averages 8.18 per cent. for England and Wales. Miss Green considers this a miserably inadequate provision. A large scale inquiry has shown that over 25 per cent. of children live in families in which the weekly income is 10s or less per head. Sir John Orr found that in a sample of such families the diet was deficient for full health in every constituent examined, and especially deficient in first-class protein and the protective food-stuffs:

Miss Green's proposals—presumably with the endorsement of her Council—include as a first step the provision of free milk for all children, both on schooldays and holidays. Up to a pint a day should be given to children who can take it. She estimates that the annual school consumption of milk would be 140 million gallons (compared with 25 million gallons at present), and that if the industry could supply the milk at one shilling a gallon, the cost to the Exchequer would be about £6,500,000 per annum as compared with the State contribution at present limited to half a million pounds. She considers that there is also a strong case for the provision of free dinners—making the midday meal part of the ordinary school routine, and abolishing the need for any income or nutritional test. The gross cost of such provision is estimated at £36,000,000 which would probably be regarded as beyond the realm of practical politics, at present. Nevertheless it gives food for thought to see England cheerfully voting £500,000,000 in one year for the piling up of destructive armaments. Money seems to be always available in unlimited quantities for the potential destruction of human life, but cannot possibly be provided in adequate amount for the safeguarding of the nation's health!

It is interesting to note in the above summary that the figures for severe malnutrition are much lower than our figures in County Donegal. We are inclined to overlook the fact, in this country, that we are straggling behind other countries in matters pertaining to nutrition and public health, and are apt to regard our limited efforts at the maintenance of national well-being with quite unfounded complacency.

TEETH.

Percentage of Children with Dental Caries. (Marked Degree or for Treatment).

YEAR	1931	1932	1933	1934	1935	1936	1937	1938
	28.5	35.1	38.0	35.1	44.9	44.0	36.9	39.4

From the above Table it will be obvious that the percentage of children found to have carious teeth on their first examination by the School doctor remains fairly consistently in the region of 35-45 per cent. It is well to bear in mind that this figure is arrived at from the rather cursory dental inspection necessarily given during the course of a general school medical examination. It is illuminating however to reflect on the fact that the Consulting Dental Surgeon to the London County Council, Major-General Helliwell, has proved by experiment that no great reliance can be placed on such figures, and indeed, as he points out, one learns from experience that a glance inspection is not enough for the discovery of early or interstitial dental disease. It is unofficially estimated that about 75 per cent. of school children show dental disease when examined by a dentist with a mirror and probe. A more reliable figure is the one given for 1936 by the Borough dentist of Cambridge who showed 68 per cent. of the entrants to school had dental disease and that this was the percentage obtained after many had been treated in connection with Maternity and Child Welfare Work. This Officer further demonstrated that 20 per cent. of the individual deciduous teeth were decayed in the average child at the age of five in six hundred and two children of that age examined in 1936.

An interesting point to note is the difference between the School doctor's figures and those of the Eastmen Dental Clinic in London. The doctors found that serious dental decay was present in only 8.2 per cent. of the children, whereas the dental surgeon's inspections showed that 60 per cent. of the children had four or more decayed teeth. There is definite evidence from this clinic that dental treatment is advantageous if it can be afforded to children before they actually enter school.

In this connection I think it well to repeat the following suggestions for a national dental scheme as propounded in last year's report :

(1) The provision of ante-natal and dental treatment for all nursing mothers.

(2) Public dental services and treatment centres. While on this subject of ante-natal treatment, it is rather significant to find the serious degree to which dental defect and disease are already established on the entry to school of young infants. Dental advice and treatment should be available at all Maternity and Child Welfare Centres, and **every effort should be made to encourage the retention of natural teeth.** The whole atmosphere of such centres should be charged with the **ideas of prevention and conservation.** When the child reaches the age of six months, the parents should be encouraged to bring it to the dental treatment centres. Dental examination of the pre-school child should be made at three-monthly intervals from the age of six months until school-age is reached, and a simple record card kept. At the end of the pre-school period the information on those cards should be transferred to the school dental record. The present scheme should be expanded to cover the entire elementary school population, viz :—every child to come under routine inspection at least twice a year, and all necessary treatment to be provided.

In other countries it has been found that ignorance and indifference of parents are responsible for low percentages of consents to treatment where such prevail. Among the remedial measures proposed to combat such indifference are the following.

(1) Talks by dental officers to parents on such occasions as numbers of them can be brought together;

(2) Talks with the children at inspection, directing attention to the condition of their teeth and the means of preserving them;

(3) Lectures to teachers, who are constantly in touch with the children, and are able to give most valuable assistance by regularly calling attention to the necessity for oral hygiene;

(4) Visits to homes by school nurses, health visitors, or voluntary workers.

Major-General Helliwell says: "One other point I would like to mention is the effect that loss of proper function may have on the development and ultimate position of the permanent teeth. If the jaws of the child are not functioning properly, the developing permanent teeth are not getting that free circulation which is their due. The jaws themselves are not getting that nourishment which is so necessary for their proper development, and so they may not be able to receive the permanent teeth in proper alignment. Again, the effect of dental disease in deciduous teeth frequently involves their early loss so that on eruption, the six-year-old permanent molar moves forward and causes an eventual crowding in the front of the mouth." He concludes by saying that the effects of dental disease would fill a volume.

It is therefore an undoubted fact that the unnecessary and cruel agony of toothache and the consequences of ill-health from dental decay might be prevented partly by careful supervision of the mouths of young children and the insistence on proper feeding so as to prevent decay of teeth by such foods as contain fibrous constituents and favour mastication. Nevertheless it is the pre-school child that is at the root of the problem, and "if we can make a dental convert of the expectant mother and instruct her in the causes of dental disease and the effect of this disease on the child and if we can, moreover, offer dental treatment of the highest order to the woman herself, we have broken down our first great barrier of the apathy and lack of understanding which exist in these matters."

There is little doubt that defects in school entrants are very often due to the condition of the mother's health. It has been emphasised by many authorities that if we are to have healthy children, they must have healthy mothers; that it is essential that domestic science, imparting a knowledge of dietetics and stressing the importance and properties of vitamins in the daily diet, should be taught at Maternity and Child Welfare centres to the mothers, and to school children of all ages, especially to the girls who are the future mothers of the race. The teaching should, of course, include mothercraft, housewifery and cooking, first aid, minor nursing, feeding and care of children, value of sunlight, open air, personal hygiene, the value of school medical services, and adequate hours of rest.

Mr. George Thompson, a pioneer of preventive dentistry in north England says that "in the northern counties large numbers of young people have all their teeth extracted and artificial ones supplied. There must be a large number of

dental extractors in the North (of England) who believe that the teeth supplied by nature are not necessary.

One cannot chew the skin of an apple or tough meat with artificial teeth, or even laugh heartily for fear they should fall out; and because one can only bite to a pressure of 35lbs. to the square inch, as against 300 lbs. or 400 lbs. with natural teeth, I ask, are teeth necessary?

It is possible to produce an artistic appearance, even an improvement to the natural smile, with artificial teeth, but it is the common experience of dentists that persons who have allowed their teeth to be destroyed have no sense of natural beauty, and only want pretty, regular and white teeth which do not harmonize with their features.

Dental caries is the direct and indireet cause of a waste of fabulous sums of money. It ruins many a girl's chance of a happy marriage. It is the forerunner of dyspepsia and anaemia. Seventy-five per cent. of the additional benefits of the so-called National Health Insurance is spent on artificial substitutes.

Its prevention is simple and rational and pleasant. It means the pleasurable mastication of clean, palatable foods which leave the mouth at the end of a meal physiologically clean.

Common sense and instinct guide one to these. The variety is so great that they cannot be tabulated on diet sheets.

One last word on the subject of school dentistry from an eminent clinician: "Dental treatment, especially conservative treatment, is unpopular, and if we wish to get the public on our side it is essential that we should take advantage of every modern method to do so. . . . . To commence a dental service with an inferior standard of treatment is to invite absolute failure from the outset, and once the service beeomes unpopular it will take many years to break down prejudiee and to re-establish it on right lines."

Present Condition of Dental Services in the County.

Up to the present there has been no attempt at conservative dentistry in connection with the Sehool Medieal Inspection service in this County. There are two part-time Dentists employed who are paid at the rate of £2 2s per session of three hours, without travelling expenses. They work in the wake of the School Medical Offieer, arranging clinics for those children whose teeth have been reported on unfavourably by the former. Such dentistry as is performed consists solely of extraction of

decayed teeth. This "extraction" dentistry should, under proper conditions, be considered quite alien to the underlying idea of public dental service. School dental services should be organised on very conservative lines, especially for the older children. In order to achieve this object, full-time dentists are, of course, a sine qua non. Furthermore, travelling dental clinics such as, I understand, are in use in Germany, should be an integral part of any scheme for scattered country districts. In this connection, I was interested to see that Armagh has been provided with such a clinic, claimed to be the first of its kind in Ireland.

The request of this department for the appointment of a full-time dental surgeon for County Donegal has been rejected by the Board of Health on the grounds of expense. The proposal to obtain a travelling dental clinic met with a similar fate. It may be of some interest to print the following details of a circular addressed to the Board members on the question of the provision of the above type of clinic:

Travelling Dental Clinic.

A Travelling Dental Clinic has been in use in Nottinghamshire since 1931.

The following article by the School Dental Surgeon, Isle of Ely, gives the main points in favour of Travelling Dental Clinics. ("Transport Efficiency," page 208).

> "School dentistry in boroughs and densely populated areas should present few difficulties. The work can be carried out in central clinics in which, if reasonably equipped, the work should resemble that of private practice. In rural areas, however, where the population is scattered, the schools small, and the distances between them great, the school dentist is confronted with a very complex problem. The children must be treated at the schools as central clinics are not practicable. Two methods are available, (a) working in the schools and using a portable equipment carried in the dentist's car, or (b) a travelling dental clinic or dental van.
>
> "In the use of the first method an immediate difficulty confronting the dentist is the question of accommodation. He will have schools of all sizes to work in and in each one he will require a room. If there is a staff-room, or a domestic science room available, his difficulties, to a certain extent, are overcome. Only a small percentage of rural

schools have such accommodation. In other schools a class-room has to be placed at his disposal. As a rule, the school is already overcrowded; complete disorganisation prevails while the dental visit lasts. In one-teacher schools the children must go into the play-ground—this may be satisfactory if the weather is fine, but what is to happen if the day is wet? In a larger school—say three teachers—the result is two rooms very overcrowded, with ordinary school routine at a standstill. Sometimes there are only two rooms, the larger of the two separated by a glass partition—not exactly soundproof. A school dentist has been known to work behind two blackboards, with a class of fifty children in the same room, trying to work. Could anything be more impossible?

Difficulties Encountered.

"The head teacher usually selects the accommodation to be used before the dentist arrives and very often it is the least suitable for dental treatment. The question of light is not considered. Often the windows face the south or west, causing shadows, not to speak of the hot afternoon sun which beats down on the poor little patient. In most rural schools there are no blinds, or else they are too old to be of use. If there are windows on two walls, the light is often so conflicting that the dentist finds it hard to work.

"There is usually only a small floor space available—in front of the fireplace. Desks have to be removed, sometimes unscrewed, and the time taken in clearing sufficient space near a window is not justified.

"The question of water is a very vital one and few schools boast of a gravitation water supply. Some have a well, some rely on rain water from the roof, and sometimes water has to be carried a considerable distance. Pails have to be borrowed and boys dispatched to fill them. The dentist is inclined to economise this meagre supply and always has a feeling of shortage. Every dentist likes to have plenty of water. How is it to be heated? Little difficulty if there is a fire; but what of the summer time? The help of the head teacher's wife has to be secured—she may be from home! If sterilisation is to be practised methylated spirits or oil must be carried in large quantities—not a very suitable arrangement—for the dentist's car. The question of waste water then appears; more pails will have to be borrowed, or else the dental attendant will have to go out to empty the portable spittoon between each treatment, as these

spittoons are very small. Then the dentist must wash his hands. Where is all this waste water to go if there is no drainage scheme?

Unsatisfactory Working Methods.

"The dentist's kit must be portable, and therefore, limited. The continuous loading and unloading must lead to deterioration. The chair, mostly of the folding type, is unstable on the usual school floor. It has a fixed seat and is often unsuitable for the operation to be undertaken. The instruments, drugs, etc., are limited; in fact, the whole equipment must be portable, before efficient.

Solving the Problem.

"The effect of the dentist working in the schools has an adverse effect upon the children. The clearing of a room causes congestion, the normal school routine is upset. The children become restless and excited. They cannot concentrate and are apt to think too much of what is going on in the next room. As the day advances they become more and more nervous.

"Under conditions such as these, not only is it impossible for the dentist to do his work efficiently, but the children develop the idea that dental treatment is a much more dreadful operation than it really is.

"Let us now consider the use of a travelling surgery. The van arrives at the school and takes up a position so as to give the maximum efficiency, for light and position. There is no disorganisation in the school. Things go on as usual and the children are doing their work without thought of impending events. The dentist can select a position to give him a good north light and yet be a safe distance from the school. Parents can come to the van without troubling the teachers. The little surgery is independent in every way. In most cases it has its own water supply complete with wash-hand basins and reservoir spittoon. It carries waste water tanks which can be emptied by means of a stop-cock when in a suitable place. The surgery equipment is very complete. The chair is a fixed one, of the school clinic pump type, which is suitable for any dental operation. There is ample cupboard room for drugs and instruments.

Method "Par Excellence."

"The children are called from their class when

required. They are not unduly excited—except in their desire to see the van, which is an unlimited source of conversation. The boys are interested in its horse-power, its speed, and how much petrol it uses. The girls discuss its suitability for a summer caravan, while the infants are bewildered as to where the waste water from the basins goes to. Children look upon the van as theirs—part of their school, and school dentistry as part of their school life.

"Undoubtedly the dental van, thanks to the modern motor engineer, is the method par excellence for school dentistry in rural areas.

Mobile Clinic Details.

"A travelling dental clinic has recently been specially built for the Education Committee of the Isle of Ely County Council, by Morris Commercial Cars Ltd., to replace a clinic which has been in use for the past ten years. The area administered by the Education Committee is 230,225 acres in extent, and the clinic will travel to 90 schools (elementary and secondary) accommodating about 12,250 children.

"The Clinic is mounted on a 2-ton Morris Commercial chassis. It is equipped with a 12-volt five-lamp lighting set, and a mechanical tyre pump.

"The interior dimensions of the main body, excluding the driver's compartment, are 12 ft. by 6 ft. by 6 ft. 4 ins. The roof is of the Pullman type and the main body windows are of frosted plate glass, the two centre ones each side opening on a strap for a distance of about 6 ins. The main body is divided into two compartments, the larger one being the surgery and the smaller one a waiting room. The surgery is equipped with a collapsible plated wash basin and tap, towel rail, mirror, two cupboards, a folding table with a collapsible chair, a fixed table to take a primus stove for heating water, and a fume pipe for the stove, electric plug point near the roof, electric fan, one frosted electric roof light immediately above the dental chair and additional electric lights at both ends of the interior, special roof light by means of a panel of frosted Triplex glass over the dental chair, opening roof windows, and curtains on chromium rods to all side windows.

Interior Equipment.

"The smaller compartment, used as a waiting room, is equipped with a collapsible wash-hand basin with tap, towel

rail and mirror, a cupboard and an upholstered seat to take two persons. The waiting room is approached by means of steps which fold up when not in use.

"Over the driver's compartment is a water tank of 30 gallons capacity from which pipes run to the water taps over the wash basins in each compartment and a further tap in the surgery.

"The floor of both compartments is covered with $\frac{1}{8}$ in. rubber. The whole of the interior is finished with white enamel whilst the exterior is painted pale blue with pale blue mouldings picked out with white and gold lines, and enclosed in a circle on each side are the arms of the administrative county of the Isle of Ely.

"The principal dental fittings are: a school clinic pump chair, a reservoir spittoon, which is flushed by a hand pump from a water reservoir filled through the bottom of the tumbler holder; and an Allan table mounted on a fixed wall bracket.

"Having practised as a school dentist for the past ten years in rural areas, and having worked in the conditions mentioned both with a portable equipment and a travelling clinic, I am firmly convinced that the latter is the one and only suitable method for dealing with out-of-the-way schools. Not only is there a great saving of time, and consequently more work can be undertaken, but the running costs, although more than that of a private car, are not excessive."

The details of the service in Armagh have already been supplied. (Copy appended).

Public Health Department,
Stranorlar,
13th March, 1937.

To The Secretary of the Donegal County Board of Health.

"A Chara,

I got in touch with the School Medical Authorities of Armagh County and Dungannon Region and am forwarding herewith the information which I have succeeded in obtaining in regard to the Travelling Dental Clinics.

"The following are the chief points regarding the service in Armagh county:—

1. The Clinic is a trailer which is drawn from place to place by the dentist's 14 h.p. Vauxhall car. He is allowed £50 per annum to cover tax, insurance and extra wear and tear and increased petrol and oil consumption of his car.

2. A folding dental chair is used. It is not ideal, but has the advantage of being able to be fitted into the locker under one of the waiting-room seats when the trailer is in transit.

3. The total cost, including Vacuum Servo Brakes which automatically take the strain off the car when descending hills, was £230 10s at the works. It was made by the Raven Caravan Co., Ferry Works, Summer Road, Thames Ditton.

Is mise, le meas,

(Signed) M. S. BASTABAL,

County Medical Officer of Health.

In Nottinghamshire it was decided that a trailer had many advantages over a van of the chassis type, for the following chief reasons:—

1. The full length of the vehicle would be available for use for clinic purposes, there being no wastage of room to accommodate the driver and engine.

2. Economy in use. A trailer would be towed to a school and there left standing until the work at the school was completed and then moved on a few miles to the next school. The van itself would, therefore, travel very little compared with the chassis type, which would be driven from and to its base daily, accumulating in a year a very heavy and wasteful mileage. A further point under this heading of economy was considered, namely, that an ordinary medium-powered touring car could tow the trailer van, whereas a chassis large enough to carry a van would necessarily have to be of a fairly high and less economical power.

3. Economy in first cost and maintenance.

4. The physical and aesthetic comfort of the dental officer, who, it was felt, would much prefer to tow a trailer behind his own car at intervals and for short distances than to drive a lorry type vehicle daily for considerable distances.

5. The trailer type gave much more freedom and scope in design, being unhampered by the exigencies of the chassis layout.

6. Mechanical defects in the propulsive machinery would put the chassis van out of use, which would not be the case with a trailer van.

7. Superior "manoeuvrability" and lightness of a van of the trailer type.

In May, 1931, the County Medical Officer of Health stated:

"The van has now been in use in the county for several months and is proving an unqualified success. The dimensions are found to be sufficient and convenient. No serious difficulties have arisen in its conveyance from place to place, and the dental officers who have used it are unanimous that it provides infinitely superior accommodation for treatment than it is possible to obtain by the hiring of premises." Sessions are held every day and on Saturday morning.

5th May, 1937.

VISUAL DEFECTS.

The incidence of defective vision was 17.4 per cent. as against 16.9 per cent. last year and 26 per cent. in 1936. Thus the big reduction noted last year is still maintained, though the figures have slightly increased on those for 1937.

The importance of diagnosis in eye conditions is the subject of a long and interesting section of the annual report 1937/38 of the National Ophthalmic Treatment Board which has centres in operation in 450 towns of the United Kingdom and Eire. The important points are summarised in the following account:

For the past thirty years one great department of the State, the Board of Education, through the School Medical Service, has been engaged in educating the parents of the rising generation in the importance of the eyesight of the children. At specific periods in the school life of the child its eyes are examined. Those children who fail in the tests are examined at

special clinics, and appropriate treatment and spectacles, where they are needed to remedy the defects of vision are provided All this work is done by medical practitioners competent to do eye work. The value of the provision to the child is unquestioned.

Despite this training of the people in the value of the proper care of the eyes, there are still many who are not sufficiently educated in this matter to appreciate the value of their own eyesight. They are content to choose for themselves such glasses as they find helpful, or they accept the assistance of an optician in their choice. They have not learned that the most important part of the choice of spectacles is the determination of the condition of their eyes. For this determination or diagnosis to be satisfactory it must be made by a doctor trained in eye work. The figures of the four successive analyses of the eye conditions of patients examined through the national Eye Service are clear and emphatic proof of this contention. That diagnosis is itself the first and most important specialism is true of all branches of medical work, and particularly true of eyework. The delicacy of the eyes, the exactitude required in their examination, the medical judgment needed to secure the best results for the patient, together make work well and truly done of the highest value to the patient, and work ill done or ill judged useless or even possibly dangerous.

The complexity of modern industrial work and the vast extension of clerical and literary work make increasingly severe demands upon the eyes, demands that do not arise in a rural and purely agricultural community.

No one will question the importance of an examination by a competent eye doctor when there is a suspicion of disease in the eyes and possibly danger to the sight or risk of blindness. But experience shows that the lesser degrees of defect—those that we are born with or those that come in the natural course of increasing age—are no less important, and their determination by an ophthalmic surgeon is no less necessary if the patient is to secure those advantages which medical science and skill can afford him. A recent expert inquiry into the incidence of eye defects among industrial workers affords evidence that over 40 per cent. of adult workers have vision which can be improved by suitable spectacles. The determination of the extent to which the correction of visual defects is of benefit in the reduction of accidents, improvement in output and quantity of work, and the elimination of fatigue and nerve-strain is one which requires the most painstaking care and patience on

the part of those engaged in it, and the enquiry has not yet proceeded far enough to enable definite conclusions to be drawn from it.

Importance of Medical Eye Examination.

The whole weight of informed opinion is in favour of medical eye examination in all cases of eye trouble and defective sight, but the general public with no knowledge of the issues involved has hitherto regarded medical eye examination as a luxury and not a necessity.

Sir Kingsley Wood, British Minister of Health, stated in 1937 : " If the services of a medical eye specialist are available, any person suffering from eye trouble would be well advised if in a position to do so, to avail himself of such services, and I should be glad to see this opinion grow, as I think it is growing, among the people of this country" (England).

The national Eye Service continues to expand and centres are now in operation, as already stated, in 450 towns of the United Kingdom and Eire.

Where welfare work is arranged for employees in industry, it is found that attention to vision brings its own rewards. Bad or poor sight means poor work, and proper arrangements for meeting the situation would be amply repaid by greater efficiency, an improvement in the general health and well-being of the workers, and a marked reduction in the number of accidents.

Briefly it may be stated that 44 out of every 100 workers have defective vision, and the recognition of eyestrain therefore. is a matter of great importance, particularly in those trades in which precision work makes great demands upon the eyesight of the worker. No workman can give of his best if he is labouring under the disadvantages attendant upon defective vision. His sense of proportion will be faulty, he cannot gauge fine measurements accurately and the strain of attempting to do so produces physical discomfort and mental depression. The eye is the workman's best tool, and demands the utmost care if its efficiency is to be maintained.

Vision in Industry.

Efficient sight, in many industries, is probably the most important single factor contributing to high output, good work, diminished casualties, and the well-being and contentment of workers. Many employers of labour recognise this, but unfor-

tunately, a large majority still pay little or no attention to the care of the eyes of their employees.

Many are undoubtedly influenced in this mattter by the popular prejudice against spectacles, and the view, which is not infrequently held to-day, that those who wear spectacles necessarily have weak eyes, and are therefore inferior to those who do not. This is an entirely erroneous view, the fact being that spectacle wearers with their glasses are more likely to possess correct vision than those whose eyes have never been subjected to expert examination.

In a series of experiments conducted some years ago in the United States of America it was found that 44.3 per cent. of industrial workers had defective vision and that in more than half of this number the defective vision was uncorrected, i.e. the individuals did not wear glasses. In other words approximately one man in every four was suffering from eyestrain and defective vision to a greater or lesser extent.

Defective vision takes many forms. It may produce a defective sense of proportion, inability accurately to gauge fine measurements, inaccurate judgment of distance or depth or a restricted field of vision. In these cases a strain is imposed upon the individual in attempting to supply the deficiency, resulting in physical discomfort, mental depression and a sense of inferiority. Defective vision moreover, is responsible for many more accidents and casualities in industry than is generally realised. The worker suffering from this disability may be shortsighted or astigmatic, with the result that his surroundings are blurred; he may be long-sighted or suffering from some latent squint, with the result that when tired he may be momentarily fogged. Conditions of this kind are a frequent cause of accident, resulting in loss of time and compensation for injuries received. Very often the worker is unaware of his disability until after the accident has occurred and the efficacy of his visual powers questioned. The provision of skilled ophthalmological treatment, therefore, in the school period assumes increasing importance with the increasing demands made on vision by the complexity of modern life. Errors detected in youth are not so liable to progress when properly treated, and employers will have the satisfaction of knowing that, with a proper school scheme for treatment of visual defects, comparatively few of their future employees will be liable to suffer from any untreated disability of this nature, unless through wilful neglect.

Trachoma.

No cases of this disease were found in the school population during the year 1938.

TUBERCULOSIS.

For the year 1938 there were three definite cases of pulmonary Tuberculosis (confirmed by x-ray) in the school population, together with twenty-one cases of surgical tuberculosis. These figures are practically the same as for 1937 (5 pulmonary, 21 surgical). The question of childhood tuberculosis is of course, inevitably bound up with the question of safe milk, and it is too soon, as yet, to expect any marked diminution in surgical tuberculosis from the working of the Milk and Dairies Act, 1935, which only came into operation last year. (See short Summary of the Act in 1937 Annual Report).

Primary tuberculosis of the lungs has been extensively studied in children and it is common knowledge that the greatest risk to life in this condition is the result of a generalised spread of the disease throughout the body, with resulting fatal meningitis. The risk is particularly marked in the first three years of life, so that in primary tuberculosis of the lungs the prognosis depends largely on the age of the child.

Most of the recent investigations into non-pulmonary tuberculous disease of childhood have been directed to the endeavour to identify the particular type of organism concerned—whether human or bovine. Griffith and Blacklock have established from bacteriological examination and post mortem investigation that in 80 per cent. of cases of primary abdominal tuberculosis the infection is due to the bovine type of bacillus. They have also demonstrated that generalised spread of the disease takes place from a primary abdominal focus of infection in a high proportion of cases (32 per cent.).

It is common knowledge that primary abdominal and bone tuberculosis is most often due to the bovine type of bacillus conveyed by milk. In confirmation of this fact, it is found that in England and Scotland, where practically all milk is pasteurised in the towns, the majority of the cases of non-pulmonary tuberculosis come from rural areas where children are usually fed on raw milk.

In a recent research by Stern and Engel they state : "We are unable to accept the current view that primary abdominal tuberculosis can be more lightly regarded in children than can a primary lung infection: the bad prognosis in young children refutes this view. Diagnosis in case of primary abdominal tuberculosis in the living child is extremely difficult; consequently

early treatment is rarely possible. Prevention of infection is therefore, all-important. Many cases of tuberculous meuingitis, miliary tuberculosis and crippling deformities could be prevented. We should endeavour as an ideal, to secure for children milk from tuberculin-tested herds only, but at present it is impossible to provide this for the whole population. Therefore the greatest measure of protection is afforded by milk which has been boiled or efficiently pasteurised."

RHEUMATISM.

The incidence of organic heart disease was found to be 0.6 per cent., an increase on last year's figure of 0.4 per cent. As stated in previous reports, practically all the cases of damaged hearts in the school population may be traced to attacks of rheumatic fever. The actual number of cases of heart disease found by inspection was 29, as compared with 27 the previous year.

The study of rheumatic infection in children is naturally bound up with its baneful effects on the heart. The cause of the infection is still the subject of speculation though many valuable contributions to the subject have been made in recent years. The disease is often very insidious, and its disastrous effects on the heart may not manifest themselves in some cases until later adult life. Thus for instance, a woman with a compensated cardiac disability may break down under the strain of child-bearing, and be lucky even to survive this extra stress. It may be taken for granted that sufferers from rheumatic heart infection almost inevitably become a burden on the community, while many of them are unable to survive even the normal stresses and strains of human existence.

For these reasons and also because of the prolonged disability and loss of productive capacity produced by the less lethal but equally incapacitating chronic rheumatic diseases of adult life, the whole subject of rheumatic infection is at present being subjected to intensive study and research, in the hope of discovering some means of curtailing its depredations.

As a starting-point it is well-known that many attacks manifest themselves by an initial Streptococcal throat infection followed by a latent period, which is in turn succeeded by an attack or relapse of acute rheumatism. Each phase has received careful study. "The initial throat-infection is often of very mild type, causing a slight rise of temperature, and in many cases it is overlooked by the patient. The presence or

absence of tonsils does not affect the outcome, since a pharyngitis or nasopharyngitis clinically recognised as a feverish cold may be the starting-point for the rheumatic attack.

The latent period may be very short, in which case the rheumatic attack follows at once on the respiratory infection. In the majority of cases the interval is from seven to twenty-one days, after which onset of fever with the development of clinical signs and symptoms ushers in the rheumatic attack.

To sum up, epidemiological and serological findings taken together provide a striking mass of evidence in favour of the etiological relation of the haemolytic streptococcus to acute rheumatism. Contrary evidence, gathered from sporadic cases, which by their nature are not susceptible to bacteriological study in the pre-rheumatic phase is much less convincing, but the possibility cannot be ignored that there may be a group of cases which arise without a preceding acute haemolytic streptococcal infection.

"The full interpretation of the results so far attained is admittedly impossible. Rather they enable us to discuss hypothetical mechanisms by which the rheumatic response may be produced. Two alternative theories appear to fit the observed facts. Either the disease is an infection with "Streptococcus haemolyticus"—and this includes the possibility of chronic systemic infection of a type not now recognised—or some other specific rheumatic agent is primary and the streptococcus is to be regarded as merely one of a number of secondary inciting causes."

Rheumatism clinics now operate in all the large centres of population in England, Scotland and Wales. Rheumatic heart cases are referred to these clinics by the School Medical Officers and special open-air schools are provided for such cases as are judged fit to attend. Prolonged convalescence in rest-homes is also provided for those cases showing active or smouldering disease, so that they may be brought to a reasonable standard of health before undergoing the strain of school life even under the easy conditions prevailing in the special schools provided.

In this way it is hoped to stem the ravages of rheumatic infection, though the measures outlined are necessarily merely palliative, pending the discovery of some means of preventing the disease entirely.

IMMUNISATION AGAINST DIPHTHERIA.

The medical superintendent of a large L.C.C. fever hospital recently expressed himself in the following terms : "Until active immunisation is more widely practised in this country, diphtheria will continue to remain one of the most deadly of children's diseases. The fact that such a small proportion of the population has been immunised is all the more tragic since it has been repeatedly shown in residential schools, amongst nurses in fever hospitals etc., that diphtheria can be abolished by the application of the Schick test and the active immunisation of those found susceptible. It is obvious that to tackle the problem from the other end and to attempt to isolate and free from infection the **symptomless carriers** who are at present the **chief agents in spreading the disease** is an impossibility. The only real solution is to raise the resistance of the population as a whole by active immunisation on a large scale; the carriers would then be harmless and the problem of diphtheria solved. When it is considered how simple and safe the procedure has become, it is amazing that it is not more widely used. It is certainly a much less troublesome procedure than vaccination against smallpox and has practically no complications. One would almost go so far as to state that with smallpox now assuming its present mild form, there is a greater argument for compulsory immunisation against diphtheria than for compulsory protection against smallpox. If such a measure were passed, thousands of lives would be saved each year in this country (England) alone."

As mentioned last year, it was decided in January 1938 to use the two-injection method of active immunisation in all future schemes. On reference to the subjoined table it will be seen that during 1938, 3,308 children were immunised by this method. Unfortunately a certain number did not turn up for the second injection, 117 in all, and these cannot expect to have as efficient a protection against the disease as those who received the two injections. During 1937, 4,523 children were injected by the "one-shot" method, though this is now universally acknowledged to be much less certain in its effects than the giving of two injections. However the evidence of this was not available in 1937 and it was hoped at that time to lessen the administrative inconvenience by the adoption of only one injection, while at the same time not lessening the efficacy of the procedure. As this hope has proved not to be based on substantial conclusions, the "one-shot" method must, therefore, necessarily be discarded, until such time as further perfections in technique again bring it within the sphere of practical politics

The Schick-test, which involves a skin injection, apart from those necessary for immunisation, was used in the combined Castlefin and Killygordon scheme. The test was used simply to determine what proportion of those injected by the "one-shot" method were rendered immune after the lapse of six months. From the table it is evident that in the case of Castlefin, 15 per cent. of the inoculated children still remained unprotected, while in the case of Killygordon the corresponding percentage was only 6. It was largely as a result of the variable amount of protection afforded in this scheme, taken in conjunction with similar figures from other observers, that it was decided to introduce the two-shot method of immunisation. The proper scientific procedure would have been to perform the Schick-test both before and after immunisation, as it is quite possible that a certain percentage of those inoculated were already immune, and thus were included in the figures obtained by merely post-Schicking. If these immunes had already been eliminated by the performance of a pre-Schick test before inoculation, the percentage of those afforded protection, as evidenced by the post-Schick test, might have been materially less. However it was felt that it might be difficult to secure adequate co-operation for the performance of a Schick-test both before and after immunisation, so it was decided purely as a measure of compromise, to be satisfied with the less accurate but still very important information afforded by a post-Schick test only. From evidence obtained in many countries it is clear that the method of two injections of alum-toxoid, as now practised in Donegal, is capable of giving a protection rate of from 94-98 per cent. It is most important that all pre-school children over six monhs of age be inoculated in any area in which a scheme is instituted. Young children of this age are very susceptible to the disease and the results are very often fatal. Epidemiologists claim that no adequate protection is afforded by inoculating the susceptible members of a community unless the number injected comprises at least 50 per cent. of the children of pre-school age. In all the schemes so far initiated in Co. Donegal, there has been a very satisfactory attendance of these infants.

IMMUNISATION AGAINST DIPHTHERIA.

NAME OF DISPENSARY	NUMBER IMMUNISED	
	Two-Injections	One-Injection
Kilmacrenan and Milford	506	
Rathmullan	361	17
Ramelton	533	
Rosguill	675	3
Fanad	334	
Cross Roads (Falcarragh) (Colaiste Brighde)	74	
Buncrana	825	
Castlefin (Immunised at time of Post-Schick Test.)		6
Killygordon (Immunised at time of Post-Schick Test.)		91
TOTAL	3,308	117

SUMMARY.

Immunised by two-injection method ...	3,308.
Immunised by one-injection method ...	117.
Total immunised ...	3,425.

POST-SCHICK TEST.

Name of Dispensary District	Number Schicked	No. Positive	No. Negative
Castlefin	288	42	246
Killygordon	226	14	212
	514	56	458

SCHOOL BUILDINGS.

Of the 172 schools examined during the year, the following 76 were adversely reported on :

Name of School.	Dispensary District.	Nature of Defects, and Recommendations (if any).
Altaghaderry.	Killea.	Only two rooms for three teachers. Recommend partitioning of main room. Infants' room overcrowded. Playground unsuitable.
Aughadahor.	Rosguill.	Cloak-room inadequate.
Ardara.	Ardara.	Extension of town water supply recommended. Open sewer beside school, which is very objectionable in warm weather. (This matter at present under consideration). Space beside school used as a public dumping-ground. This should be remedied forthwith.
Arranmore II.	Dungloe Arranmore	The closets are in a bad condition. This is largely due to the fact that the school is not enclosed, so closets are used by the public at large. The school premises would require to be enclosed by a wall and locks provided for the closet gates.
Aughnahoo.	Pettigo.	The building is antiquated. Floors, walls and roof in bad condition. Closets are bad, drainage bad, playground bad. A new school required.
Ballyboes.	Cross Roads (Falcarragh).	Lighting defective in middle room.
Ballydevitte.	Donegal.	Building antiquated. Roof bad. Type of window unsuitable for lighting and ventilation. Walls bad. Building very much overcrowded—with a full attendance the floor space per pupil is 5 square feet. A new school is an immediate necessity.
Ballymagroarty.	Ballintra.	Two teachers in one room. Playground very small.

Name of School.	Dispensary District.	Nature of Defects, and Recommendations (if any).
Ballysaggart.	Dunkineely.	No closets. Playground waterlogged Floors of school bad. Walls cracked. School draughty. New school recommended.
Barnesmore.	Donegal.	Rooms draughty and heating insufficient. Alterations contemplated.
Beagh.	Ardara	Ceilings in a very dangerous condition. Plaster has become detached in places, allowing rain through in wet weather. Plaster in other places liable to fall and cause injury to pupils. Required a new ceiling urgently. Closets insanitary and antiquated.
Bundoran (B.)	Ballyshannon.	Very old building. Lighting insufficient.
Carrickboy.	Ballyshannon.	Recommend the installation of flush closets.
Carrigans.	Killea.	Lighting defective in Infants' Room. No cloakroom or playground.
Carricknahorna (1)	Ballintra.	No cloakroom.
Carrigart.	Rosguill.	Sanitary accommodation unsatisfactory. Heating inadequate. Two teachers in a one-roomed school. It should be partitioned.
Carrowcannon (G).	Cross Roads (Falcarragh).	Only one room for two teachers Noise audible from Boys' School adjoining. A new school. with proper sanitation, heating and lighting, required.
Carrowcannon (B.)	Cross Roads (Falcarragh).	Only one room for two teachers. School separated only by wooden partition from Girls' School. Ventilation, lighting and heating unsatisfactory. Earth closets too near school. Replacement by new school suggested.
Cashel.	Fanad.	Playground unsuitable.

Name of School.	Dispensary District.	Nature of Defects, and Recommendations (if any).
Cashel	Carrick.	The school was originally a one-roomed one and has been divided by partitions into three class-rooms. Some of the rooms are overcrowded and the central class-room is inadequately heated by stove. The hall-way used as cloak-room is not suitable. No water supply. Playground unsuitable.
Cashelard.	Ballyshannon.	No water supply convenient.
Clogher.	Glenties.	Building old, badly ventilated, and very dark. Heating arrangements, sanitary accommodation, and playground unsatisfactory. A new school is required.
Cronaghbois.	Ardara.	New school required. Building antiquated. Windows unsuitable and inadequate—some cannot be opened. Ventilation bad—bad "blow-down" from chimneys. Both teachers have to work in one unsuitable room.
Creevy	Ballyshannon.	Building antiquated. Walls damp. Roof and floor in disrepair. Lighting bad. No playground. Sanitary arrangements primitive. No water supply convenient. New school an urgent necessity.
Derries.	Ballintra.	Lighting inadequate.
Derryhassen.	Rosguill.	Playground unsuitable. Sanitary accommodation unsatisfactory.
Derrylaghan.	Carrick.	Slightly overcrowded. Playground unsuitable.
Doobin.	Glenties.	The school is a wooden structure. The playground is too small and is unenclosed.
Donegal.	Donegal.	Playground space inadequate.
Dunkineely.	Dunkineely.	Playground unsuitable. Smaller classroom usually overcrowded. No separate entrance to this room. Recommend enlarging of smaller classroom and providing a separate entrance.

Name of School.	Dispensary District.	Nature of Defects, and Recommendations (if any).
Glencolumbkille.	Carrick.	Very small school. Situated in top storey of ordinary dwelling-house, with stone steps up to it. Badly built. Lighting inadequate.
Gortnacart.	Ardara.	Room overcrowded on most school days. School could be enlarged by removing wall between hall and school and partitioning new room thus formed. A porch would require to be built.
Graffy.	Glenties.	Ventilation bad. No closets and no playground. Building very old. Insufficient seating accommodation. New school required.
Horn Head.	Dunfanaghy.	Premises considered definitely unsuitable. Walls damp. Heating and lighting inadequate. New school recommended.
Hugh Roe.	Donegal.	Sanitary accommodation unsuitable.
Inishfree Island.	Dungloe. (Burtonport).	There is no satisfactory water supply for school or on Island.
Innisherrer.	Cross Roads (Bunbeg).	No playground. Ventilation inadequate. Cloakroom not suitable.
Inniskeeragh	Dungloe (Arranmore).	No satisfactory water supply on Island, except that which falls as rain.
Inishmean Island.	Cross Roads (Bunbeg).	New school to be built next year. No playground. No cloak-room. Heating and lighting inadequate.
Keelogs.	Dunkineely.	Heating arrangements unsuitable.
Kerrykeel.	Fanad.	New school to be built. Site procured.
Kildarragh.	Dunfanaghy.	The school is in a very bad condition and decidedly unsatisfactory. Flooring bad, etc. Lighting is poor, though there are sufficient windows. Recommend that new school be built as soon as possible.
Kilkenny.	Glenties.	Playground unsuitable.

Name of School.	Dispensary District.	Nature of Defects, and Recommendations (if any).
Kilmacrenan (1)	Kilmacrenan and Milford.	Lighting inadequate. Question of improvement of lighting under consideration. Cloakroom inadequate.
Knockletragh.	Glenties.	The building is very old. There is no cloakroom or playground.
Laekrum.	Donegal.	Heating inadequate. Rain seeps through roof in parts. Walls damp.
Largynaseragh.	Ardara.	Playground muddy and waterlogged in wet weather. Closets insanitary.
Loughill.	Ballyshannon	School overcrowded, badly ventilated and lighted. No cloakroom or playground. The surroundings are a veritable quagmire in wet weather New school recommended.
Lurganboyee.	Rathmullan	Only one room for two teachers.
Malinbeg.	Carrick	Roof in bad condition. Plaster off roof near chimney (3" x 1½"). Leak at top of chimney near roof. Wall damp; should be repaired. Windows nailed up—had notched levers which became corroded—not present now. Ordinary sash windows should be provided. Heating inadequate. Closets require to be cleaned.
Malinmore.	Carrick.	No drinking water convenient.
Manorvaughan.	Rosguill.	Light obstructed by trees, which should be cut down.
Meenacross.	Carrick.	Water supply unsatisfactory.
Meenavalley.	Ardara.	A two teacher one-roomed school.
Meevagh.	Rosguill.	Heating arrangements unsatisfactory in Infant's room.
Milford R.C.	Kilmacrenan and Milford.	Playground space inadequate. Recommend provision of better lighting in Infants' room.
Moness.	Killea.	Playground unsuitable.
Monreagh.	Killea.	Lighting defective. No playground.

Name of School.	Dispensary District.	Nature of Defects, and Recommendations (if any).
Muckross.	Killybegs.	The site is bad—school very much below level of surroundings. The building is antiquated and unsuitable for use as school. A new school is under consideration and I consider it an urgent necessity.
Mullanmore.	Glenties.	New and improved type of window required. Closets insanitary.
Mulroy.	Rosguill.	Playground unsuitable.
Murroe.	Dunfanaghy.	There is only one class-room and there are two teachers. Recommend that a partition be erected so that each teacher has a separate room.
Narin.	Ardara.	Room very dark—provision of additional window in south wall recommended. Heating inadequate.
Nuala Convent.	Donegal.	The corrugated-iron class-rooms are unsuitable and should be replaced by more substantial structure. Closets are antiquated and should be replaced.
Portlean.	Kilmacrenan and Milford.	Sanitary accommodation defective. Lighting defective. Damp—in hollow, field rising up directly at back of school. Plaster on ceiling defective. Recommend new school.
Rossnowlagh.	Ballintra.	Water supply for drinking unsatisfactory.
Slieve League.	Carriek.	Premises considered definitely unsuitable. Roof, walls and floor are damp and in disrepair. The building is antiquated and unsuitable for school. There are no closets and no playground. A new school is urgently required.
St. Connell's (B.)	Glenties.	An additional class-room is needed. Playground unsuitable.
St. Davadogg's, Tamney.	Fanad.	Playground space inadequate.
St. Eunan's (B.)	Letterkenny.	School overcrowded. Cloakroom inadequate.

Name of School.	Dispensary District.	Nature of Defects, and Recommendations (if any).
Tamlaght.	Pettigo.	Heating inadequate.
Tamney (Robertson).	Fanad.	No cloak-room and no playground.
Teelin	Carrick.	Water supply unsatisfactory.
Termon.	Kilmacrenan and Milford.	Sanitary accommodation defective. Ventilation unsuitable. Playground unsuitable. Ceiling of main room defective, causing a bad draught. Infants' room is a gallery—badly lighted, and with defective seating accommodation. Only two class-rooms for three teachers. Recommend removal of gallery in Infants.' room; partition in main room to make two rooms—one for each teacher. Additional windows required.
Tory Island.	Cross Roads. (Bunbeg).	Cloak-room inadequate. No playground.
Tullymore (2)	Ballyshannon.	The building is antiquated. Roof and floor in disrepair. Draughty, and lighting insufficient. New school required.

SUMMARY OF INSPECTION AND DEFECTS.

TABLE A.

Showing total number of children inspected during the year 1938, grouped according to dispensary districts, and the attendances of parents at the actual inspections.

DISPENSARY DISTRICT.	Number on Roll.	Total Number Inspected.	First Inspection.	Second Inspection.	Number whose Parents Present.
ARDARA	466	257	57	200	196
Ardara (Mixed)	25	21	12	9	21
Beagh	23	20	—	20	10
Cronaghbois	39	29	2	27	22
Garrowart	12	2	—	2	—
Gortnacart	48	7	5	2	3
Kiltoorish (Rosbeg)	27	20	11	9	7
Largynaseeragh	36	19	4	15	19
Loughros Point (Drimitten)	22	20	1	19	20
Meentinadea	38	19	2	17	18
Meenavalley	47	10	6	4	8
Narin	12	7	4	3	—
Sgoil an Bhreacaigh	47	23	5	18	15
Sgoil Dhallain Forgaill, Portnoo	51	45	5	40	38
Sgoil Leac Conaill.	39	15	—	15	15
BALLINTRA	133	48	27	21	12
Ballymagroarty	44	20	15	5	2
Carricknahorna (1)	13	3	3	—	3
Carricknahorna (2)	24	8	3	5	—
Cavangarden	13	4	2	2	4
Derries	19	6	1	5	3
Rossnowlagh	20	7	3	4	—
BALLYSHANNON	1,128	655	304	351	372
Ardfarna	54	37	12	25	34
Ballyshannon Convent	286	133	68	65	83
Bohey	47	39	18	21	34
Bundoran Boy's	53	42	27	15	28
Bundoran Convent	165	79	47	32	57
Carrickboy Girls'	50	35	23	12	28
Cashelard	34	29	9	20	21
Coolmore	43	15	4	11	8
Creevy	61	46	13	33	17
Finner	15	13	7	6	2
Kilbarron (Church Avenue)	44	34	9	25	15
Loughill	41	19	6	13	10
Sgoil Naomh Sheosaimh	172	87	41	46	35
Rockfield	38	32	13	19	22
Tullymore	25	15	7	8	9

TABLE A.—Continued.

DISPENSARY DISTRICT.	Number on Roll.	Total Number Inspected	First Inspection.	Second Inspection.	Number whose Parents Present.
CARRICK	767	408	143	265	306
Carrick	83	71	21	50	67
Coguish	88	18	4	14	13
Crove	26	4	4	—	—
Derrylaghan	61	15	6	9	12
Glencolumbkille	9	4	4	—	1
Kilcar	50	8	1	7	2
Lougheraherk	28	17	3	14	13
Malinmore	25	18	7	11	16
Malinbeg	25	21	7	14	21
Meenacross	55	38	13	25	8
Meenaneary	67	31	11	20	20
Sgoil an Chaisil	119	100	35	65	95
Slieve League	23	12	4	8	12
Straleel	33	13	3	10	—
Teelin	75	38	20	18	26
CROSS ROADS (Falcarragh)	571	205	143	62	163
Ballyboes	110	27	21	6	27
Carrowcannon Boys'	53	14	6	8	6
Carrowcannon Girls'	74	37	22	15	28
Gort an Choirce	229	79	63	16	59
Innishboffin Island	39	32	19	13	30
Magheroarty	56	12	9	3	11
Ray	10	4	3	1	2
CROSSROADS (Bunbeg)	114	75	37	38	59
Gola Island	18	17	11	6	13
Innishmean Island	21	14	6	8	10
Innisherrer Island	5	5	3	2	4
Thorr	39	13	4	9	6
Tory Island	31	26	13	13	26
DONEGAL	649	256	97	159	106
Ballydevitte	91	52	19	33	25
Cineil Conaill	88	19	6	13	16
Clar (Robertson)	40	2	—	2	1
Donegal	27	9	5	4	2
Hugh Roe Boys'	114	46	18	28	19
Killymard	17	8	1	7	2
Lackrum	37	13	5	8	4
Lough Eske	31	12	6	6	3
Nuala Convent	121	43	15	28	21
Sgoil Bhearnais Mhoir	83	52	22	30	13
DUNFANAGHY ...	557	349	254	95	288
Ballymore	18	14	12	2	13
Creeslough	21	21	10	11	15
Dunfanaghy No. 1	24	24	15	9	17

TABLE A.—Continued.

DISPENSARY DISTRICT.	Number on Roll.	Total Number Inspected.	First Inspection.	Second Inspection.	Number whose Parents Present.
DUNFANAGHY—Contd.					
Dun Fionnachaidh	62	41	26	15	29
Drumnaraw	102	74	60	14	68
Fothar ..	54	33	27	6	30
Glasson	32	13	11	2	13
Kildarragh	57	18	14	4	13
Massinass Boys.'	55	24	17	7	21
Massinass Girls'	59	39	29	10	35
Murroe	43	21	13	8	17
Horn Head (Non- Nat. Sc.)	30	27	20	7	17
DUNGLOE (Burtonport)	90	80	59	21	70
Carrickfin Island	14	14	12	2	14
Cruit Island	36	35	25	10	25
Innishfree Island	12	12	11	1	12
Owey Island	18	7	3	4	7
Rutland Island	10	12	8	4	12
DUNGLOE (Arranmore)	282	214	112	102	212
Arranmore No. 1	150	105	58	47	103
Arranmore No. 2	124	88	43	45	88
Inniskeeragh Island	18	21	11	10	21
DUNKINEELY	431	221	92	129	162
Ballysaggart	46	7	2	5	7
Bruckless	30	12	6	6	4
Calhame	35	18	8	10	7
Croagh	65	36	18	18	24
Dunkineely No. 2 ..	62	29	17	12	19
Killaghtee ..	34	17	2	15	13
Keelogs	39	28	11	17	27
Sgoil Naile Naomhtha, Legain	71	36	14	22	30
Urbal	49	38	14	24	31
FANAD	628	246	107	139	65
Ballymichael	38	10	3	7	—
Cashel No. 2	118	52	21	31	3
Croaghross	55	5	5	—	—
Drumfad	21	8	4	4	—
Sgoil Fanad	22	7	4	3	1
Kerrykeel	83	19	4	15	2
Leatbeg	18	15	9	6	11
Naomh Brighde, Ballylar....	61	19	8	11	2
Sgoil Padraig Naomhtha, Dumhach Bheag	45	11	6	5	4
St. Davadogg's, Tamney	82	58	25	33	14
Tamney, (Robertson)	31	17	10	7	8
St. Columba's, Ballyheerin	54	25	8	17	20

TABLE A.—Continued.

DISPENSARY DISTRICT.	Number on Roll.	Total Number Inspected.	First Inspection.	Second Inspection.	Number whose Parents Present.
GLENTIES	413	209	136	73	153
Clogher	47	20	14	6	19
Croaghs	15	10	9	1	9
Doobin	20	2	2	—	—
Derryloughan	32	22	16	6	17
Edeninfagh	55	23	21	2	21
Graffy	44	39	21	18	26
Knockletragh	11	12	9	3	6
Mullanmore	38	19	9	10	16
Sgoil Dhruim na Croise	35	15	5	10	8
Sgoil Chill Choinnigh	53	4	3	1	—
St. Connell's Boys'	63	43	27	16	31
KILLEA	574	188	67	121	53
An Ceathramhadh Riabhach	23	2	1	1	1
Burt No. 1 (or Speenogue)	52	21	7	14	—
Carrigans	36	9	7	2	2
Carrowan	54	3	—	3	—
Cross Roads	33	14	4	10	3
Monreagh	29	6	4	2	1
Naomh Mhuire, Bridgend	73	13	8	5	—
Sgoil Alt Achadh Doire	105	50	16	34	26
Sgoil Cholmcille, Newtowncunningham	140	63	18	45	19
The Castle, Newtowncunningham	29	7	2	5	1
KILLYBEGS	325	198	59	139	160
Fintra	60	39	10	29	31
Killybegs Commons	67	30	8	22	20
Muckross	20	5	—	5	2
Niall Mor, Killybegs	122	83	29	54	74
Sgoil Roishin	12	8	4	4	—
Shalvey	44	33	8	25	33
KILMACRENAN and MILFORD	402	175	54	121	76
Carrownaganonagh	48	32	7	25	25
Kilmacrenan No. 1	29	10	4	6	1
Milford	35	29	6	23	3
Milford	66	42	11	31	19
Naomh Colmeille, Kilmacrenan	69	20	8	12	11
Portlean	28	8	—	8	—
Termon	127	34	18	16	17
LAGHEY	112	50	26	24	46
Ballintra (Robertson)	38	16	4	12	13
Sgoil Earnain Naomhtha, Ballintra	74	34	22	12	33

TABLE A.—Continued.

DISPENSARY DISTRICT.	Number on Roll.	Total Number Inspected.	First Inspection.	Second Inspection.	Number whose Parents Present.
LETTERKENNY	183	92	12	80	92
St. Eunan's Monastery	183	92	12	80	92
PETTIGO	263	101	51	50	46
Aughnahoo	124	49	35	14	21
Gortnessy	26	9	4	5	—
Lettercran	52	19	2	17	15
Pettigo	19	4	1	3	2
Tamlaght	42	20	9	11	8
RATHMULLAN	267	171	54	117	58
An t-Easbog O Gallchobhair, Kerrykeel. (Otherwise Glenvar).	64	35	5	30	11
Garbhain Sathloir, Rathmullan	76	56	15	41	17
Lurgan Boyce	35	10	4	6	3
Rathmullan Boys'	67	55	22	33	23
Rathmullan (Robertson)	25	15	8	7	4
ROSGUILL	582	283	101	182	130
Aughadahor	38	11	7	4	10
Carrigart	60	20	13	7	6
Cranford	28	15	3	12	2
Derryhassen	90	36	10	26	18
Gortnabrade	84	47	17	30	30
Glen	65	42	13	29	25
Kinelargy (Robertson)	48	18	6	12	13
Meevagh	61	17	6	11	7
Manorvaughan	16	12	2	10	1
Mulroy	43	26	9	17	2
Sgoil Cuil, Cranford	49	39	15	24	16
GRAND TOTAL	8,937	4,481	1,992	2,489	2,825

N.B.—The "Number on Roll" given in Table A refers to **the schools which were actually inspected** in a particular Dispensary District during the year 1938. In some Dispensary Districts the inspection of the schools was not completed during the year.

TABLE B.

Showing state of children in matters of clothing, footgear, and cleanliness.

	Unsatisfactory	Percentage.	Very Unsatisfactory.	Percentage.	TOTAL.	Percentage.
Clothing	208	4.7	60	1.3	268	6.0
Footgear	120	2.7	22	0.5	142	3.2
Cleanliness of Head	458	10.2	112	2.5	570	12.7
Cleanliness of Body	530	11.8	143	3.2	673	15.0

TABLE C.

Giving a summary of the defects discovered during the year 1938.

DEFECT OR DISEASE.	TOTAL.	Percentage.	Marked Degree or for Treatment	Percentage.	Moderate Degree or for Observation.	Percentage.
Malnutrition	534	11.9	67	1.5	467	10.4
Ringworm of Body	1					
Impetigo	12	1.8				
Scabies	47					
Other Skin Diseases	22					
Carious Teeth	1,991	44.4	1,765	39.4	226	
Defective Vision	778	17.4	513	11.4	265	5.9
Squint	82					
Other Eye Diseases	72					
Hearing	5	0.1				
Ear Diseases	22					
Speech	29					
Tonsils and Adenoids	1,184	26.4	881			
Rhinitis	16				303	
Nasal Obstruction	10	0.4				
Cervical Glands	146	3.3	14			
Submaxillary Glands	40		4		132	
Heart Disease (Functional)	25	0.6			36	
Heart Disease (Organic)	29	0.6				
Anaemia	87	1.9	23		64	
Bronchitis	58					
Other Non-Tuberculous Lung Conditions	11	1.5				
Definite Pulmonary Tuberculosis	3	0.07				
Suspected Pulmonary Tuberculosis	63	1.4				
Surgical Tuberculosis	21	0.5				
Rickets	30	0.7				
Hernia	8	0.2				
Epilepsy	2					
Other Nervous Conditions	12	0.3				
Postural Defects	99	2.2				
Deformities	64	1.4				
Infectious or Contagious Diseases	6					
Mental Condition	10	0.2	4		6	
Other Diseases or Defects	61	1.4				

TABLE D.

Showing the number of children unvaccinated according to Dispensary Districts.

DISPENSARY DISTRICT	Number Inspected	Number Unvaccinated	Percentage.
Ardara	257	22	
Ballintra	48	6	
Ballyshannon	655	34	
Carrick	408	10	
Cross Roads (Falcarragh)	205	28	
Cross Roads (Bunbeg)	75	24	32.0
Donegal	256	21	
Dunfanaghy	349	264	75.6
Dungloe (Burtonport)	80	27	
Dungloe (Arranmore)	214	41	19.1
Dunkineely	221	10	
Fanad	246	17	
Glentics	209	25	
Killea	188	27	14.4
Killybegs	198	43	
Kilmacrenan and Milford	175	2	
Laghey	50	9	
Letterkenny	92	2	
Pettigo	101	7	
Rathmullan	171	3	
Rosguill	283	20	
TOTAL	4,481	642	14.3

TABLE E.

Classification of certain diseases and defects found during School Medical Inspection in the Year 1938.

SKIN DEASES.	
Acne Vulgaris	2
Alopecia Areata	3
Chilblains	1
Eczema	2
Furunculosis	1
Herpes Labialis	1
Ichthyosis	2
Impetigo	12
Moles	2
Naevi	3
Psoriasis	2
Ringworm of Body	1
Scabies	47
Urticaria	1
Other Conditions	2
Total	82
EYE DISEASES.	
Albinism	3
Blepharitis	43
Cataract	1
Conjunctivitis	2
Corneal Opacities	3
Corneal Ulcers	1
Cysts	1
Defective Vision	778
Hordeoli	3
Nystagmus	7
Photophobia	2
Proptosis	3
Ptosis	2
Strabismus	82
Other Conditions	1
TOTAL	932
EAR DISEASES.	
Defective Hearing	5
Otitis Media	6
Otorrhoea	16
TOTAL	27
NON-PULMONARY TUBERCULOSIS.	
Tuberculosis of Bone	6
Tuberculosis of Glands	2
Tuberculosis of Joints	7
Tuberculosis of Membranes	6
TOTAL	21
NERVOUS DISEASES.	
Chorea	1
Convulsions	2
Epilepsy	2
Headache	2
Nocturnal Enuresis	4
Other Conditions	3
TOTAL	14
DEFORMITIES.	
Birth Palsy	3
Cleft Palate	3
Congenital Dislocation	3
Genu Valgum	3
Hallux Valgus	1
Hammer Fingers	1
Malformation of Fingers	1
Malformation of Toes	1
Pes Cavus	1
Pes Planus	16
Rachitic Deformities	14
Scoliosis	2
Sequel to Injury	7
Sequel to Polio-encephalitis (Paresis, etc.)	4
Talipes	1
Torticollis	2
Webbed Toes	1
TOTAL	64
OTHER DISEASES.	
Angioma	1
Chronic Appendicitis	4
Cysts (coccygeal)	1
Cysts (congenital)	1
Cysts (inside under lip)	1
Dwarfism	2
Goitre	1
Haemophilia	1
Keloid	1
Mongolism	3
Parasites	1
Phimosis	2
Pituitary Disorders	1
Post-encephalitic Conditions	2
Rheumatism	14
Spastic Paraplegia	1
Thyroid Disorders	1
Other Conditions	21
Unclassified	2
TOTAL	61

SUMMARY OF TREATMENT.

TABLE F.

Showing the number of operations for the removal of enlarged or diseased tonsils and adenoids in the various county institutions during the year 1938.

Name of Institution.	Number Treated
Ballyshannon District Hospital	3
Donegal District Hospital	56
Letterkenny District Hospital	202
Lifford District Hospital	9
. TOTAL	270

TABLE G.

Giving details of Dental Clinics held during the year 1938.

Total number of Clinics held	...	35
Number of Children in Attendance	...	1,250
Number of Children treated	...	1,248

TABLE H.

Giving details of eye clinics conducted by the school medical officers during the year 1938.

Total number of clinics held	...	1
Number of Children in Attendance	...	23
Number of children for whom glasses were prescribed	...	20

TABLE I.

Giving summary of treatment afforded at the eye and ear hospital, Derry, during the year 1938.

1.—EXTERN DEPARTMENT.

Number of Children in Attendance ..	102
Number of Children Treated ...	102

2.—INTERN DEPARTMENT.

Number of Children Admitted and Treated	7
Number of Children for whom Glasses were prescribed in the Eye and Ear Hospital ...	102